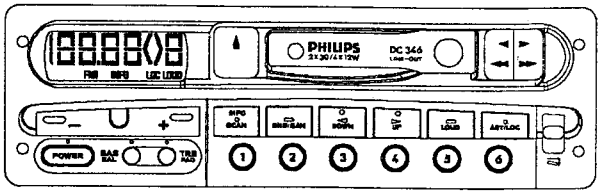
Cassette car radio 22DC213/00-216/02-243/00-246/02

22DC316/02-343/00-346/02

Service
Service
Service



For repair information of the Cassette deck see Service Manual of Auto Cassette Deck :
TN301NX265 (22DC213-216-243-246) 4869
CDS36-PR (22DC316-343-346)

Service Manual

12 V

Contents **page**

Controls	-2
Connections	-3
Technical data - Chips handling	-4
Servicing hints	-5-5a
Semiconductors - IC pinnings	-6-6a
Block diagram	-7-7a
DC voltages - Checks and adjustments	-8-8a
Tuner part 1 schematic diagram	-9-9a
Main PWB layout	-10-10a
Tuner part 2 schematic diagram	-11-11a
Sound Process part 1 schematic diagram	-12-12a
Sound Process part 2 schematic diagram	-13-13a
Power supply schematic diagram	-14-14a
Main PWB layout	-15-15a
Microcontroller part schematic diagram	-16-16a
Tape part schematic diagram	-17-17a
Power part schematic diagram	-18-18a
Exploded view / Mechanical partslist	-19-19a
Electrical partslist	-20-20a-21
Technician's remarks	-22

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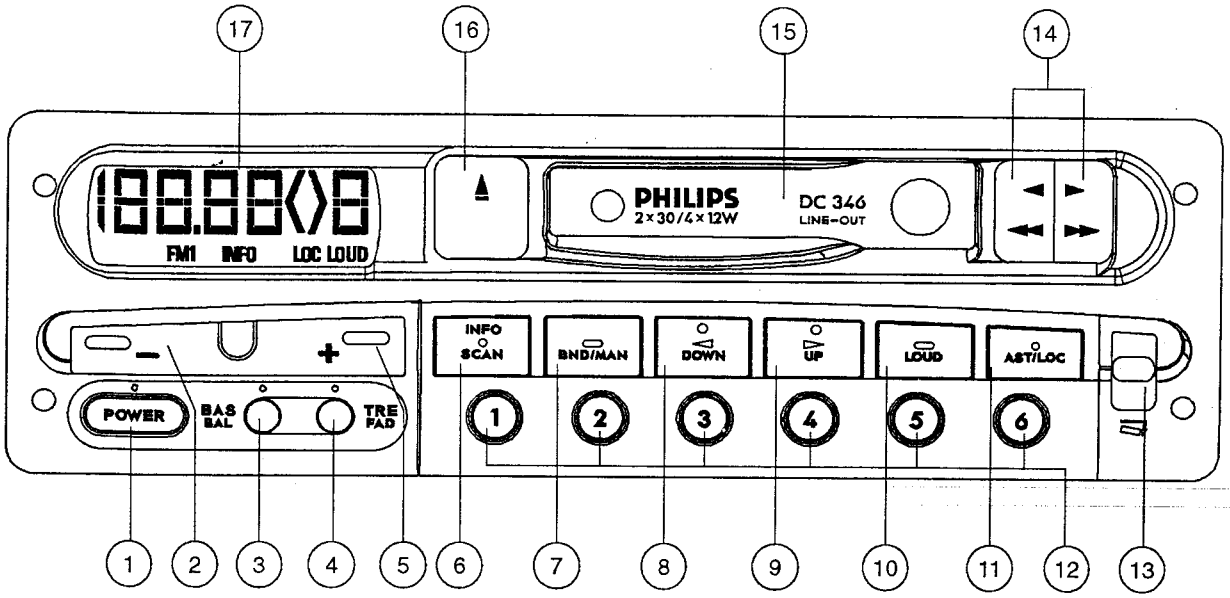
PCS 80 082

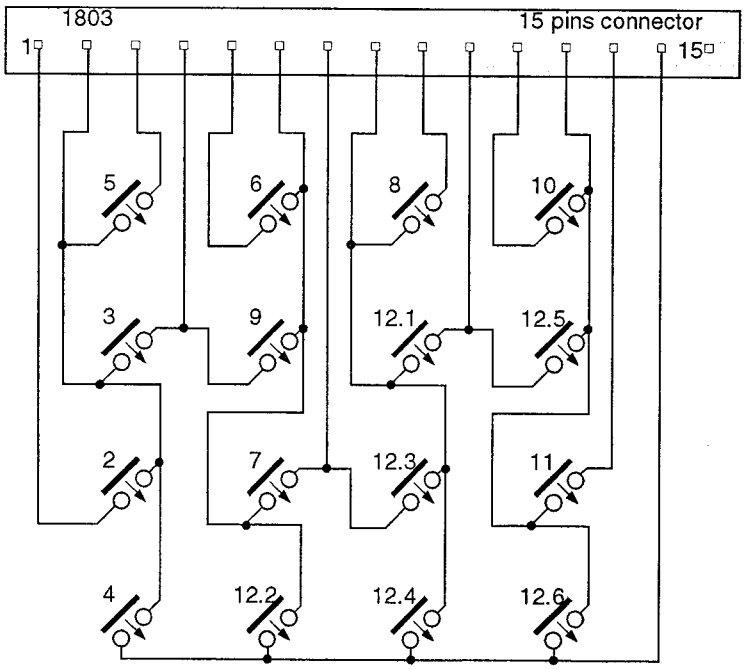
PHILIPS

CONTROLS

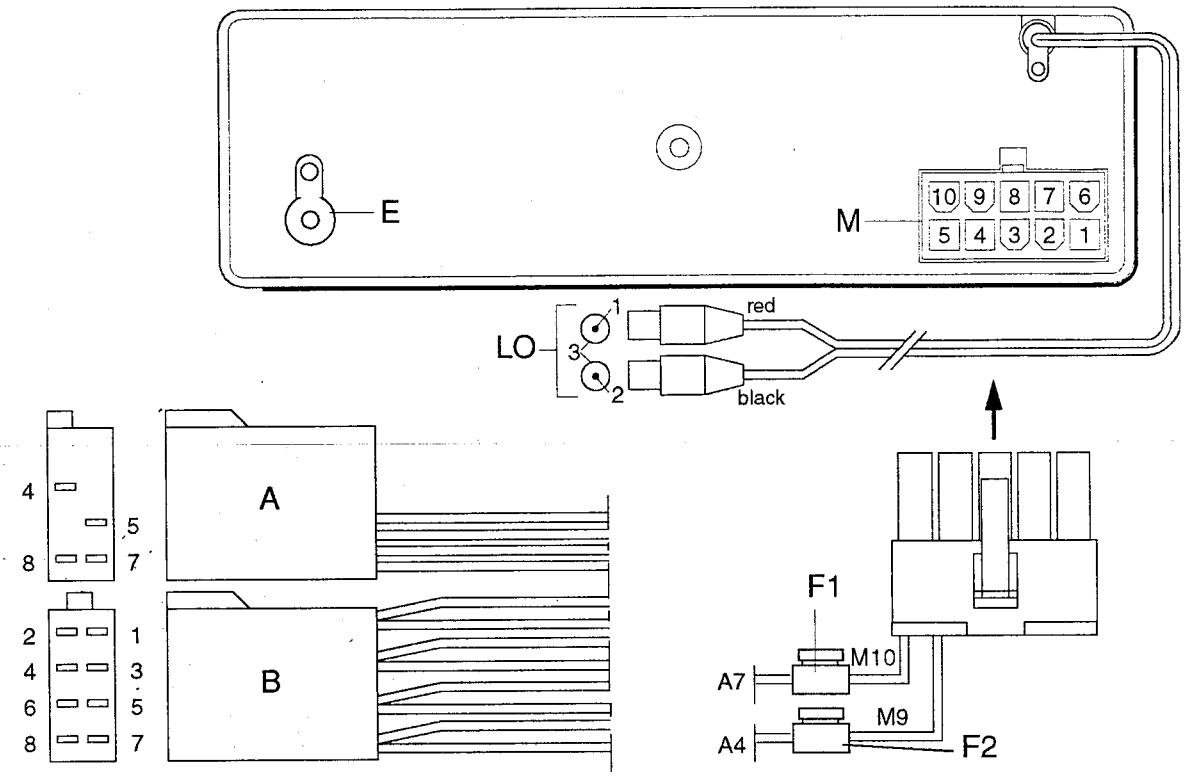


1	On / Off	10	Loudness
2	Volume -	11	Autostore / Local
3	Bass / Balance	12	Presets / Selection
4	Treble	13	Release Knob for detachable unit
5	Volume +	14	Ffw / Frw Buttons (316-343-346)
6	Scan Presets / Info (216-246-316-346)	15	Cassette Opening + Flap
	Scan Presets (213-243-343)	16	Reverse Button / Eject (316-343-346)
7	Band Selection / Manual Search Select		FFW / Eject (213-216-243-246)
8	Search Down	17	Display
9	Search Up		

KEYBOARD SCHEMATIC DIAGRAM



CONNECTIONS



A : POWER SUPPLY

A4 = M9	+12V PERMANENT	YELLOW / RED
A5 = M4	AUTOMATIC AERIAL	BLUE
A7 = M10	+12V SWITCHED	RED
A8 = M5	GROUND	BROWN

B : LOUDSPEAKERS

FOR 4 X 4.5 W CONFIGURATION :		FOR 2 X 15 W CONFIGURATION :	
B1 / B4 = M7	REAR RIGHT+ / FRONT RIGHT -		BLUE - GREY / BLACK
B2 = M8	REAR RIGHT -	B2 = M8 RIGHT CHANNEL -	BLUE / BLACK
B3 = M3	FRONT RIGHT+	B3 = M3 RIGHT CHANNEL +	GREY
B5 = M1	FRONT LEFT+	B5 = M1 LEFT CHANNEL +	GREEN
B6 / B7 = M2	FRONT LEFT- / REAR LEFT+		GREEN / BLACK - BROWN
B8 = M6	REAR LEFT -	B8 = M6 LEFT CHANNEL -	BROWN / BLACK

LO : LINE OUT CABLE (only 316 - 343 - 346)

LO1	RIGHT SIGNAL	RED
LO2	LEFT SIGNAL	BLACK
LO3	GROUND	SHIELDING

E AERIAL PLUG (DIN 41585)
F1 FUSE 5A
F2 FUSE 2A

TECHNICAL DATA

GENERAL

Power supply	:14.4V DC
Dimensions	:180x150x51.8 mm

RADIO

LW *	: 144-288 KHz
MW *	: 531-1629 KHz
FM	: 87.5-108 MHz
IF-AM *	: 450 KHz / 10.7 MHz
IF-FM	: 10.7 MHz / 72.2 MHz
Sensivity 26dB S/N	: 24 µV (LW)
	: 17.5 µV (MW)
	: 3,5 µV (FM)
Limitation α-3dB	: 3 to 15 µV

(*Only 243-246-343-346)

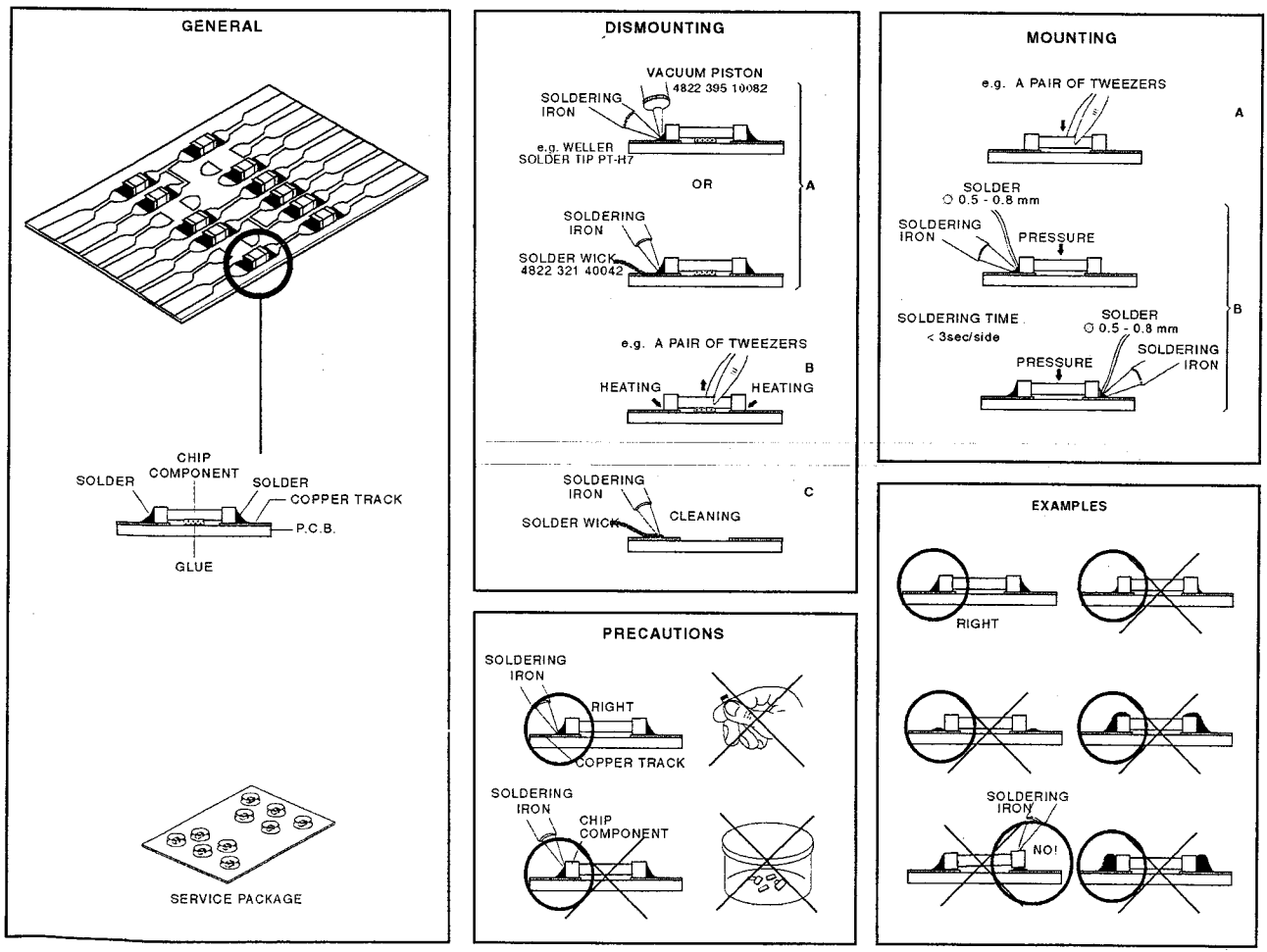
CASSETTE

Cassette mechanism	:TN-301NX-265 (213-216-243-246)
Number of tracks	:2
Tape speed	:4.75 cm/sec
Wow and flutter	:≤ 0.35% (+5° to +35°)
Crosstalk	:> 21dB
Cassette mechanism	:CDS 36-PR (316-343-346)
Number of tracks	:2x2
Tape speed	:4.75 cm/sec
Wow and flutter	:≤ 0.35% (+10° to +45°)
Crosstalk	:> 21dB

AMPLIFIER

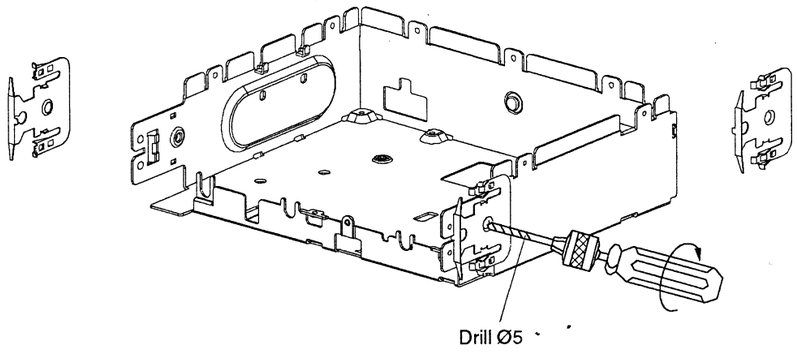
Output power	:2x15 or 4x4.5W / 4Ω (D = 10%)
Loudness	:+7dB ± 2dB at 60Hz
	:+4dB ± 2dB at 10kHz
Treeble control	:+10/-10 ± 2dB at 10kHz
Bass control	:+12/-12 ± 2dB at 60Hz
Balance control	:>12dB
Fader	:>12dB
Mute	:-70dB

HANDLING CHIP COMPONENTS



22DC213/00 - 22DC216/02 - 22DC243/00 - 22DC246/02 - 22DC316/02 - 22DC343/00 - 22DC346/02

LOCKING SPRING REMOVAL



If a Mounting Spring needs to be changed,you have to first eliminate the fastening by drilling it out with a Ø5mm hand-drill

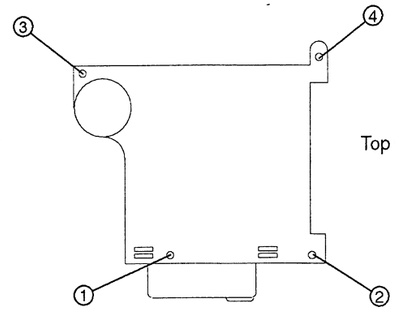
For the fixing of the new one , use a counter-sunk screw Ø3mm, length 5 or 6mm and an M3 nut

ESD

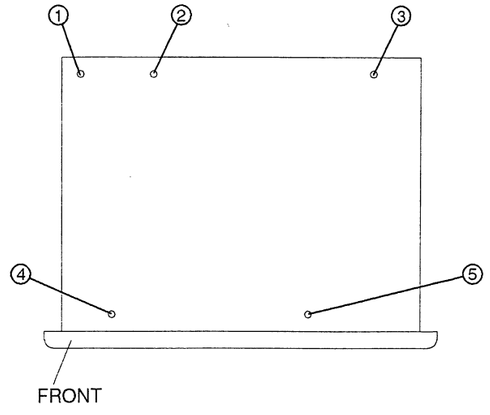
WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

SCREWING SEQUENCE DECK



SCREWING SEQUENCE PWB



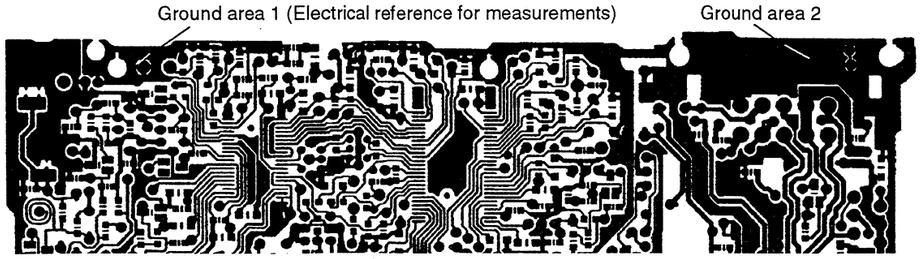
REMOVING THE PWB

1) Disconnect all the cables and flex foils, and disengage the lamp from the light box of the LCD
2) Remove the front
3) Remove the deck (see screwing sequence)
4) Disengage the lamps from the metal frame
5) Remove the transparent LED
6)Remove the bracket of the power IC
7) remove the antenna plug bracket

Now you can remove the PWB (see screwing sequence)

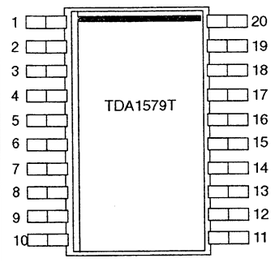
CONNECTING THE PWB FOR MEASUREMENTS ON THE COPPER SIDE.

1) Connect a wire (by soldering) between ground areas 1 and 2.
2) Short circuit the pins 2 and 3 of the detection switch.
3) Reconnect the flat foils of the front and the supply cable. Also reconnect the tape deck.



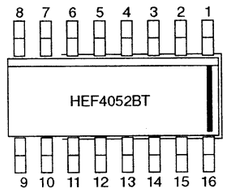
TDA1579T Decoder for traffic warning radio transmissions

SYMBOL	PIN	DESCRIPTION
SK	1	SK indicator
DKout	2	DK output current
SKout	3	SK output current
τBK	4	time delay BK
V_{5BK}	5	filter output BK
V_{6BK}	6	filter input BK
V_P	7	supply voltage
$V_P/2$	8	half supply voltage
V_{9SK}	9	SK detector output
n.c.	10	not connected
n.c.	11	not connected
V_{12SK}	12	57kHz band pass filter
V_{AGC}	13	AGC
I_{14}	14	prestage biasing current
V_{MPX}	15	MPX input
V_{16DK}	16	filter input DK
V_{17DK}	17	filter output DK
τDK	18	time delay DK
I_{19}	19	reference current for BK, DK detector
GND	20	ground



HEF4052BT Dual 4 channel analogue multi/demultiplexer

SYMBOL	PIN	DESCRIPTION
Y_{0B}	1	independant input/output 0_B
Y_{2B}	2	independant input/output 2_B
Z_B	3	common input/output B
Y_{3B}	4	independant input/output 3_B
Y_{1B}	5	independant input/output 1_B
E	6	enable input (active LOW)
V_{EE}	7	ground
V_{SS}	8	ground
A_1	9	address input 1
A_0	10	address input 0
Y_{3A}	11	independant input/output 3_A
Y_{0A}	12	independant input/output 0_A
Z_A	13	common input/output A
Y_{1A}	14	independant input/output 1_A
Y_{2A}	15	independant input/output 2_A
V_{DD}	16	supply

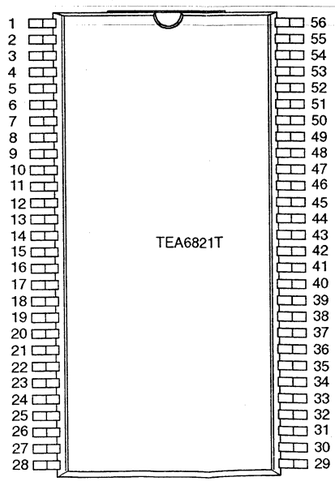


FUNCTION TABLE

inputs			channel
$\overline{E}$	A_1	A_0	ON
L	L	L	Y_{0A}-Z_A; Y_{0B}-Z_B
L	L	H	Y_{1A}-Z_A; Y_{1B}-Z_B
L	H	L	Y_{2A}-Z_A; Y_{2B}-Z_B
L	H	H	Y_{3A}-Z_A; Y_{3B}-Z_B
H	X	X	none

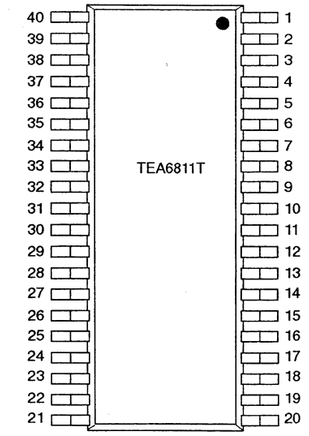
TEA6821T

SYMBOL	PIN	DESCRIPTION	SYMBOL	PIN	DESCRIPTION
QDET1	1	demodulator tank	FMIFAMPOUT	29	FM-IF amplifier output
QDET2	2	demodulator tank	AFGND	30	AF ground
TSWITCH	3	time switch	DEEMPHR	31	de-emphasis capacitor right
GND	4	analog ground	DEEMPHL	32	de-emphasis capacitor left
VPS	5	5 V supply voltage	AMIF2IN1	33	AM IF2 input1
HFBUS1	6	HF bus, pull-up to 5 V	AMIF2IN2	34	AM IF2 input2
HDBUS2	7	HF bus, pull-up to 5 V	FMIN2	35	FM limiter input
XTAL1	8	crystal oscillator	DCFEED	36	DC feed FM limiter
XTAL2	9	crystal oscillator	FMIN1	37	FM limiter input
F_{REFP}	10	PLL reference frequency	LEVELADJ	38	level adjust
F_{REFN}	11	PLL reference frequency	C_{AFC}	39	AFC capacitor
I_{REF}	12	reference current	MPBUF	40	multipath buffer time constant
FMIF1IN1	13	70 MHz FM-IF input	OUTLEFT	41	AF output left
FMIF1IN2	14	70 MHz FM-IF input	FMSTOP	42	FMSTOP adjust
TSDR	15	time constant for SDR	RDS/AMSTOP	43	MPX for RDS/AMSTOP adjust
TSDS	16	time constant for SDS	OUTRIGHT	44	AF output right
V_{SDS}	17	SDS control voltage	MPXIN	45	stereo decoder MPX input
V_{SDR}	18	SDR control voltage	IAC_{IN}	46	IAC input
FMIF2OUT1	19	FM mixer output	MPXOUT	47	FM demodulator MPX output
FMIF2OUT2	20	FM mixer output	AMAFOUT	48	AM demodulator AF output
V_{REF}	21	reference voltage	V_{MUTAML}	49	mute voltage / AM level
AMIF2OUT1	22	AM mixer output	LEVELUNWEIG	50	level unweighted
AMIF2OUT2	23	AM mixer output	$I_{ACCONTR}$	51	IAC control voltage
FMAMDEC	24	FM/AM 10.7 MHz decoupling	V_{PDIG}	52	V_P digital
PHASEDET	25	phase detector	SDA	53	SDA, pull-up to 5 V
PILDET	26	pilot detector	SCL	54	SCL, pull-up to 5 V
FMAM10.7	27	FM/AM 10.7 MHz input	BUSGND	55	bus ground
V_{PIF}	28	V_P IF amplifier	$V_{P8.5}$	56	V_P 8.5 V



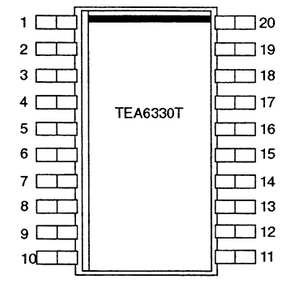
TEA6811 IC91 RF IC

SYMBOL	PIN	DESCRIPTION	SYMBOL	PIN	DESCRIPTION
GNDANF	1	analog ground 5 V	GNDAMM	21	ground AMMIXER
VCCANF	2	analog supply 5 V	AMPREO	22	AMPREAMP output
LCKDET	3	lock detector flag	NC	23	
SDA	4	I2C bus data	AMSBI	24	AM feedback switch SB1
SCL	5	I2C bus clock	AMSBII	25	AM feedback switch SB2
FREFN	6	ref frequency from I2C N-terminal	AMPREI	26	AMPREAMP input
FREFP	7	ref frequency from I2C P-terminal	AMCAGC	27	AM AGC capacitor
GNDDIF	8	digital ground	AMCPRE	28	AM preamp decoupling capacitor
VCCDIF	9	digital supply 5 V	GNDRF	29	RF ground
NC	10		FMRFIP	30	FM MIXER inputs RF
FMIFON	11	outputs of FM-mixer of	FMRFIN	31	
FMIFOP	12	first IF (72.2 MHz)	IPIDIO	32	pin diode drive
VCCE	13	analog supply 8.5 V	FMAGC	33	FM AGC integrating capacitor
GNDE	14	analog ground 8.5 V	REFAGC	34	FM AGC reference voltage
AMMOP	15	outputs of AMMIXER	OSCFDB	35	oscillator FEEDBACK input
AMMON	16	of first IF (10.7 MHz)	GNDOSC	36	oscillator ground
NC	17		OSCTNK	37	oscillator tank output
AMMIN	18	AMMIXER input RF	VCCOSC	38	supply voltage VCO
VREF	19	reference voltage from AMBANDGAP	VTUNE	39	tuning voltage
NC	20		CHPOUT	40	charge pump output

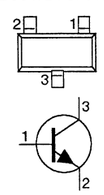


TEA6330T Sound FAder Control circuit (SOFAC)

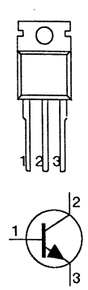
SYMBOL	PIN	DESCRIPTION
C_{PS}	1	filtering capacitor for power supply
IN-R	2	audio input signal RIGHT
GND1	3	analog ground (0 V)
C_{BR1}	4	capacitor for bass control RIGHTand signal to equalizer
C_{BR2}	5	capacitor for bass control RIGHT
C_{TR}	6	capacitor for treble control RIGHT, input signal for equalizer RIGHT
QRR	7	right audio output signal of rear channel
QRF	8	right audio output signal of front channel
MUTE	9	input to set mute externally
GND2	10	digital ground (0 V) for bus control
SCL	11	clock signal of I^2C-bus
SDA	12	data signal of I^2C-bus
QLF	13	left audio output signal of front channel
QLR	14	left audio output signal of rear channel
C_{TL}	15	capacitor for treble control LEFT, input signal for equalizer LEFT
C_{BL2}	16	capacitor for bass control LEFT
C_{BL1}	17	capacitor for bass control LEFT and signal to equalizer
V_p	18	+8.5 V supply voltage
IN-L	19	audio input signal LEFT
V_{ref}	20	reference voltage output (V_p/2)



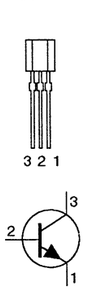
BC847B / BF840



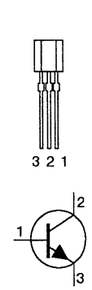
BD241

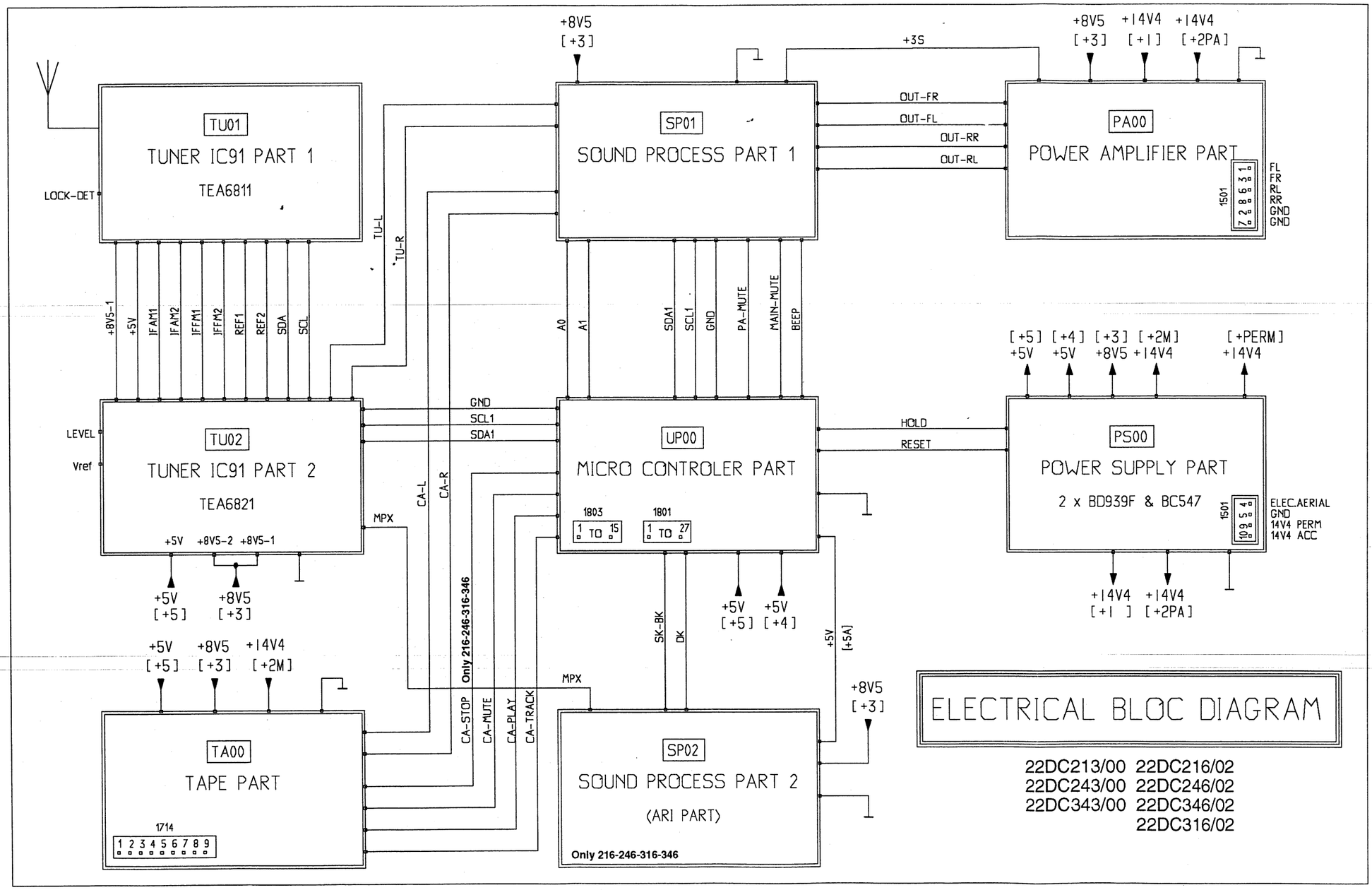


BC547



BC636




TU01
TUNER IC91 PART 1
TEA6811
LOCK-DET
+8V5-1
+5V
IFAM11
IFAM2
IFFM1
IFFM2
REF1
REF2
SDA
SCL
TU-L
TU-R
SP01
SOUND PROCESS PART 1
+8V5
[+3]
+3S
A0
A1
SDA1
SCL1
GND
PA-MUTE
MAIN-MUTE
BEEP
OUT-FR
OUT-FL
OUT-RR
OUT-RL
PA00
POWER AMPLIFIER PART
1501
FL
FR
RR
RL
GND
GND
+8V5
[+3]
+14V4
[+1]
+14V4
[+2PA]
TU02
TUNER IC91 PART 2
TEA6821
LEVEL
Vref
+5V
+8V5-2
+8V5-1
+5V
[+5]
+8V5
[+3]
GND
SCL1
SDA1
MPX
CA-L
CA-R
UP00
MICRO CONTROLER PART
1803
1 TO 15
1801
1 TO 27
HOLD
RESET
SK-BK
DK
+5V
[+5]
+5V
[+4]
+5V
[+5A]
[+5]
+5V
[+4]
+5V
[+3]
+8V5
[+2M]
+14V4
[+PERM]
+14V4
PS00
POWER SUPPLY PART
2 x BD939F & BC547
1501
ELEC.AERIAL
GND
14V4 PERM
14V4 ACC
+14V4
[+1]
+14V4
[+2PA]
+5V
[+5]
+8V5
[+3]
+8V5
[+3]
+14V4
[+2M]
Only 216-246-316-346
CA-STOP
CA-MUTE
CA-PLAY
CA-TRACK
MPX
TA00
TAPE PART
1714
1 2 3 4 5 6 7 8 9
SP02
SOUND PROCESS PART 2
(ARI PART)
Only 216-246-316-346
ELECTRICAL BLOC DIAGRAM
22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02

PCS 80 088

DC VOLTAGES

7202 TEA6811V

1 = GND
2 = 3.0 V
3 = 4.9 V
4 = 5.1 V SDA
5 = 5.1 V SCL
6 = 5.0 V
7 = 4.9 V
8 = GND
9 = 5.2 V
10 = GND
11 = 8.5 V
12 = 8.5 V
13 =8.5 V
14 = GND
15 = 8.4 V
16 = 8.4 V
17 = GND
18 = 0.1 V
19 = 0.0 V
20 = GND
21 = GND
22 = 1.8 V
23 = GND
24 = 0.1 V
25 = 0.2 V
26 = 2.8 V
27 = 0.1 V
28 = 0.1 V
29 = GND
30 = 3.1 V
31 = 3.1 V
32 = 0.0 V
33 = 4.2 V
34 = 4.2 V
35 = 2.6 V
36 = GND
37 = 6.2 V
38 = 8.4 V
39 = 3.0 V
40 = 3.0 V

7300 TEA6821T/V2

1 = 4.0 V
2 = 4.0 V
3 = 0.8 V
4 = GND
5 = 5.0 V
6 = 5.0 V SDA
7 = 5.0 V SCL
8 = 61.5 MHz
9 = 61.5 MHz
10 = 5.0 V
11 = 4.9 V
12 = 4.2 V
13 =2.3 V
14 = 2.3 V
15 = N.C.
16 = 5.0 V
17 = 2.5 V
18 = 1.4 V
19 = 8.4 V
20 = 8.4 V
21 = 5.0 V
22 = 8.5 V
23 = 8.5 V
24 = 3.0 V
25 = 4.7 V
26 = 2.7 V
27 = 2.9 V
28 = 8.5 V
29 = 6.2 V
30 = 1.8 V
31 = 2.3 V
32 = 2.3 V
33 = 0.7 V
34 = 1.0 V
35 = 2.7 V
37 = 2.7 V
37 = 2.7 V
38 = 1.7 V
39 = 3.3 V
40 = 0.7 V
41 = 3.5 V
42 = 1.9 V
43 = 3.0 V
44 = 3.4 V
45 = 2.8 V
46 = 3.2 V
47 = 3.2 V
48 = 4.5 V
49 = 5.0 V
50 = 5.2 V
51 = 4.9 V
52 = 5.1 V
53 = 5.1 V
54 = 5.1 V
55 = GND
56 = 8.5 V

7402 TDA7374V

1 = 7.0 V
2 = 7.0 V
3 = 14.4 V
4 = 0.7 V
5 = 0.7 V
6 = 0.7 V
7 = 6.6 V
8 = Earth
9 = GND
10 = N.C.
11 =0.7 V
12 =0.7 V
13 = 14.4 V
14 = 7.0 V
15 = 7.0 V

7602 HEF 4052BT

1 = 3.4 V
2 = 5.5 V
3 = 3.4 V
4 = 3.4 V
5 = 3.8 V
6 = GND
7 = GND
8 = GND
9 = 0.0 V
10 = 0.0 V
11 = 3.4 V
12 = 3.5 V
13 = 3.4 V
14 = 3.9 V
15 = 5.5 V
16 = 7.7 V

7401 HEF 4052BT

1 = 3.9 V
2 = GND
3 = 3.9 V
4 = GND
5 = 3.9 V
6 = GND
7 = GND
8 = GND
9 = GND
10 = 6.4 V
11 = GND
12 = 3.9 V
13 = 3.9 V
14 = 3.9 V
15 = GND
16 = 7.7 V

7605 TEA 6330

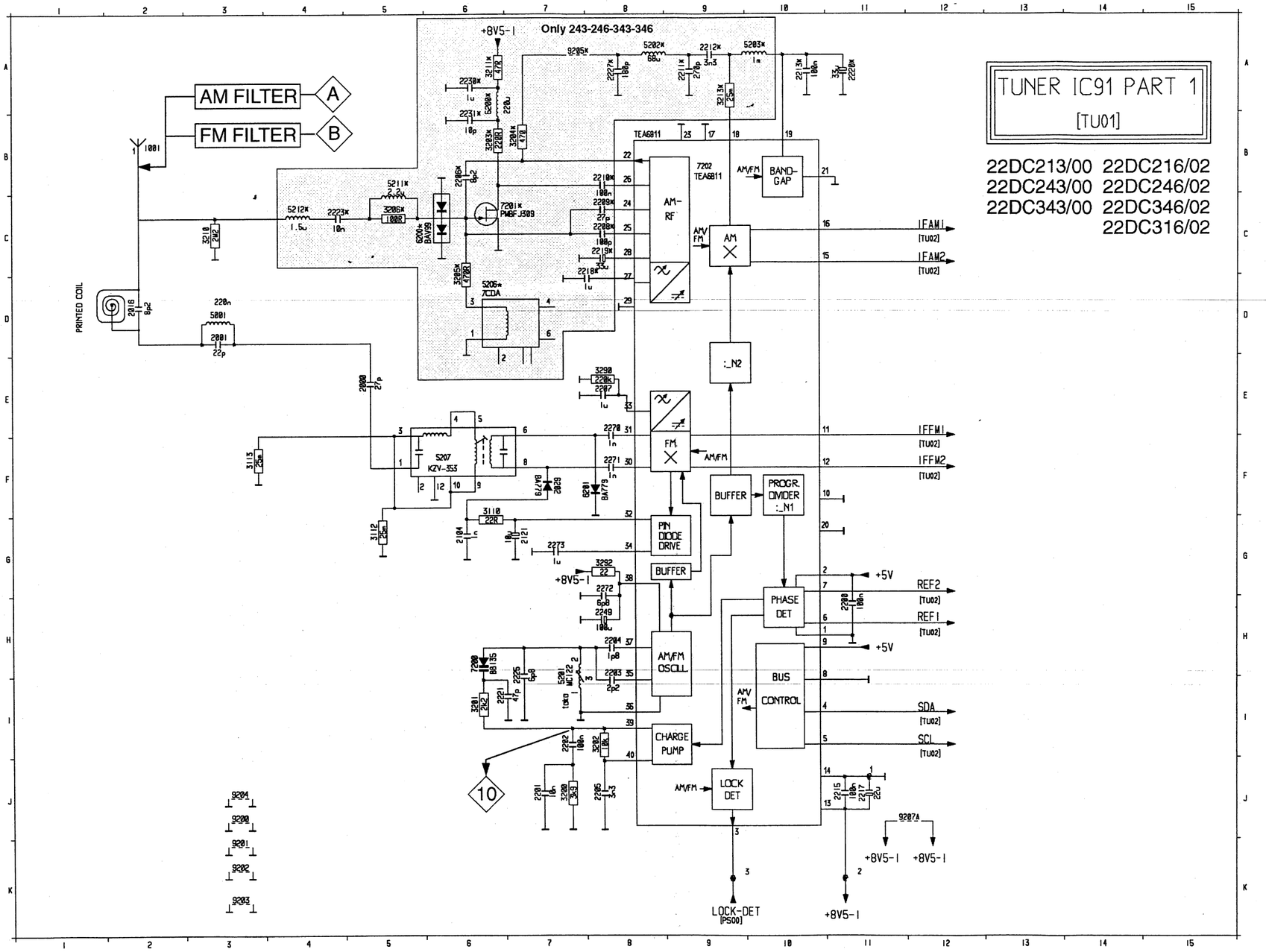
1 = 7.7 V
2 = 3.8 V
3 = GND
4 = 3.9 V
5 = 3.9 V
6 = 3.9 V
7 = 3.9 V
8 = 3.9 V
9 = 7.7 V
10 = GND
11 = 5.1 V SCL
12 = 5.1 V SDA
13 = 3.9 V
14 = 3.9 V
15 = 3.9 V
16 = 3.9 V
17 = 3.9 V
18 = 7.7 V
19 = 3.9 V
20 = 3.9 V

CHECK AND ALIGNMENT

For checking and adjusting see general procedures

Check	SK		◇	▭	Setting of controls		
Demodulated FM levels	FM	98 MHz 1 mV Δf=22.5 KHz f mod = 1 KHz	B			◇8 210 mV ± 40 mV	
		98 MHz 1 mV Δf = 6.75 KHz f mod = 19 KHz				◇8 60 mV ± 10 mV	
		98 MHz 1 mV Δf = 3.75 KHz f mod = 57 KHz				◇8 30 mV ± 10 mV	
Demodulated AM level	MW	1053 KHz 1 mV 1 KHz, 30% AM	A			250 mV ≤ ◇7 ◇9 ≤ 350 mV	
VC FM	FM		B	87.5 MHz		◇10 > 1.2 V	
				108 MHz		◇10 < 5.5 V	
VC AM	LW		A	144 KHz		◇10 > 1.2 V	
	MW			1629 KHz		◇10 < 7.0 V	
FM Mute	FM	93 MHz 1mV	B		◺	◇5 ◇6 0 dB (775 mV)	
		No signal				◇5 ◇6 < -10 dB	
0 Discriminator						◇4 3.4 V ± 400 mV	
Reference oscillator frenquencies						◇1 61.5 MHz ± 3kHz ◇2 6 MHz ± 0.5%	

Alignment	SK		◇	▭		
	FM	88 MHz 20µV no AF signal	B	88 MHz	5201	◇10 1.35 V ± 50 mV
	FM	93 MHz <20 µV no AF signal	B	93 MHz	5209 5210	Max DC voltage on pin 50 of IC 7300
	FM	93 MHz 20µV no AF signal	B	93 MHz	5208	Max DC voltage on pin 50 of IC 7300
	AM	1053 KHz 70µV 1 kHz 30%	A	1053 KHz	5301	Max DC voltage on pin 50 of IC 7300
Audio limiting	FM	98 MHz 1 mV Δf=22.5 KHz f mod = 1 KHz	B		◺	◇5 ◇6 0 dB (775 mV)
		98 MHz 6 µV Δf=22.5 KHz f mod = 1 KHz			3321	◇5 ◇6 -3 dB



TUNER IC91 PART 1

[TU01]

22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02

1001 B 2
2000 E 5
2001 D 3
2002 C 2
2016 D 2

2104 G 6
2121 G 7
2200 H11
2201 J 7
2202 I 7

2203 H 8
2204 H 8
2205 J 8
2206 B 6
2207 E 8

2208 C 8
2209 C 8
2210 B 8
2211 A 9
2212 A 9

2213 A10
2215 J11
2217 J11
2218 C 8
2219 C 8

2220 A11
2221 I 7
2223 C 4
2225 H 7
2227 A 8

2230 A 6
2231 B 6
2249 H 8
2270 E 8
2271 F 8

2272 G 8
2273 G 7
3110 F 6
3112 G 5
3113 F 3

3200 J 7
3201 I 6
3202 I 8
3203 B 6
3204 B 7

3205 C 6
3206 C 5
3210 C 3
3211 A 6
3213 A 9

3290 E 8
3292 G 8
5001 D 3
5200 A 6
5201 H 7

5202 A 8
5203 A10
5206 D 6
5207 E 6
5211 B 5

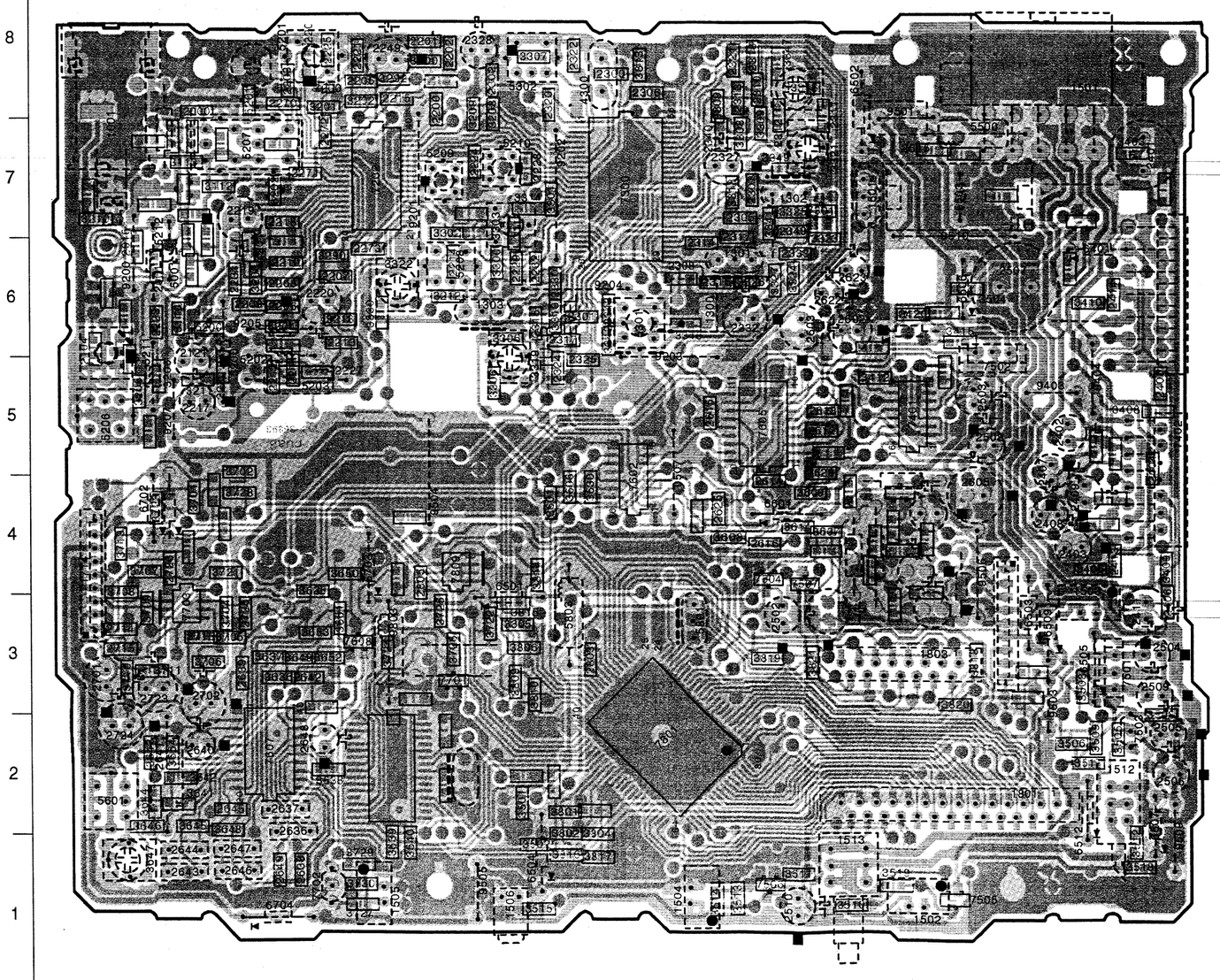
5212 C 4
6200 C 6
6201 F 7
6202 F 7
7200 H 6

7201 C 7
7202 B 8
9200 J 3
9201 K 3
9202 K 3

9203 K 3
9205 A 7
9204 J 3
9207 J12

1001 J 8	1506 G 1	2220 H 6	2409 B 5	2510 D 1	2643 I 2	3319 G 6	5206 J 5	5503 C 7	6506 C 7	7502 C 6	9403 B 6	9803 H 3
1300 E 6	1512 B 2	2249 H 8	2411 A 4	2602 D 6	2644 I 2	3321 D 8	5207 I 8	5601 J 2	6507 A 2	7503 A 3	9404 B 6	
1301 E 7	1513 D 2	2327 E 8	2502 D 4	2603 D 6	2646 I 2	3322 H 7	5208 G 7	5801 E 4	6509 B 4	7702 H 2	9501 C 8	
1302 D 7	1601 D 7	2328 G 8	2503 C 6	2605 C 5	2647 I 2	3647 J 2	5209 G 7	5803 F 4	6512 B 2	9200 J 7	9503 B 3	
1303 G 6	1714 J 4	2332 E 6	2504 A 3	2622 D 6	2648 H 3	4300 F 8	5210 G 8	6401 B 7	6601 D 5	9201 G 7	9504 G 5	
1501 B 8	1801 B 2	2401 A 8	2505 A 3	2623 D 7	2701 J 3	5001 I 7	5211 J 6	6501 G 4	6702 J 5	9202 F 7	9505 G 1	
1502 C 1	1803 C 3	2402 B 5	2506 A 2	2636 H 2	2702 I 3	5200 I 6	5212 J 7	6502 D 8	6703 H 4	9203 E 6	9506 C 4	
1503 B 4	2121 I 6	2403 B 4	2507 B 7	2637 I 2	2723 J 3	5201 H 8	5301 F 6	6503 B 4	6704 I 1	9204 F 7	9507 E 5	
1504 E 1	2217 I 6	2407 B 5	2508 C 5	2640 I 3	2724 J 3	5202 I 6	5302 F 8	6504 F 2	7402 A 5	9205 I 6	9509 A 2	
1505 H 2	2219 I 7	2408 B 5	2509 A 3	2641 J 2	3303 G 7	5203 H 6	5500 C 8	6505 B 3	7501 A 3	9207 I 6	9510 C 7	

22DC213/00
22DC216/02
22DC243/00
22DC246/02
22DC316/02
22DC343/00
22DC346/02



2000 I 3	2645 I 2	3519 C 2	7605 E 5
2001 J 7	2649 I 2	3601 F 5	7607 I 3
2016 J 7	2714 J 4	3606 F 5	7608 H 4
2104 J 6	2715 J 3	3608 E 4	7701 G 3
2200 G 8	2725 I 4	3609 D 5	7703 I 4
2201 G 8	2726 J 4	3614 D 5	7801 E 3
2202 G 8	2803 F 3	3630 F 5	7809 G 4
2203 H 8	2805 G 4	3635 H 4	
2204 H 8	3110 I 6	3636 I 3	
2205 H 8	3112 I 7	3637 I 3	
2206 I 6	3113 I 8	3638 H 2	
2207 H 7	3200 G 8	3639 H 2	
2208 I 7	3201 H 8	3640 G 2	
2209 I 6	3202 H 8	3641 I 2	
2210 I 7	3203 I 7	3642 I 2	
2211 H 6	3204 I 6	3643 J 3	
2212 I 6	3205 J 6	3644 J 2	
2213 H 6	3206 J 6	3645 I 2	
2214 G 7	3208 G 8	3646 J 2	
2215 H 8	3209 G 8	3648 I 2	
2218 I 7	3210 J 7	3649 H 3	
2221 H 8	3211 I 6	3650 H 4	
2223 J 6	3212 G 6	3651 H 4	
2224 G 8	3213 H 6	3652 H 3	
2225 H 8	3290 H 7	3653 H 4	
2227 H 6	3292 H 8	3654 J 3	
2228 F 8	3300 G 7	3701 I 5	
2229 G 7	3301 F 7	3702 I 5	
2230 I 6	3302 G 7	3704 I 4	
2231 I 7	3305 G 6	3705 I 4	
2232 F 7	3306 G 6	3706 I 3	
2270 I 8	3307 F 8	3707 J 4	
2271 H 7	3308 E 8	3708 J 4	
2272 H 8	3309 E 8	3709 J 4	
2273 H 7	3310 F 6	3710 J 3	
2300 F 8	3313 F 8	3711 J 3	
2301 F 6	3314 F 7	3713 J 4	
2302 G 8	3317 F 6	3715 I 4	
2305 E 7	3318 E 7	3721 I 4	
2306 E 8	3323 D 7	3722 G 4	
2307 E 7	3324 D 7	3723 J 5	
2308 E 7	3325 D 7	3724 H 3	
2309 E 8	3326 E 7	3725 G 4	
2310 E 8	3327 D 7	3726 G 3	
2311 D 8	3330 H 6	3727 H 1	
2312 D 8	3341 D 7	3728 I 5	
2313 E 8	3342 F 6	3729 H 2	
2314 E 7	3343 F 6	3730 H 2	
2315 F 6	3346 D 8	3801 F 2	
2316 E 7	3347 D 8	3802 F 2	
2317 E 7	3348 E 6	3804 F 2	
2318 E 8	3349 D 8	3805 G 4	
2320 F 8	3403 A 8	3806 G 3	
2321 E 8	3406 B 4	3809 G 3	
2322 F 8	3408 A 5	3810 F 3	
2324 F 6	3409 A 4	3814 F 4	
2325 F 6	3410 B 6	3815 G 4	
2330 F 7	3412 D 6	3816 F 2	
2333 D 7	3415 C 6	3817 F 2	
2340 E 8	3420 C 6	3818 C 3	
2349 D 7	3501 G 2	3819 D 3	
2404 A 5	3502 F 2	3820 C 3	
2405 A 6	3503 B 3	3821 D 3	
2406 A 4	3504 C 7	6200 I 6	
2413 B 4	3505 B 3	6201 I 8	
2414 B 6	3506 B 3	6202 I 7	
2515 C 8	3507 D 4	7200 H 8	
2612 D 5	3508 A 3	7201 I 7	
2613 D 5	3509 B 3	7202 H 7	
2614 D 5	3510 D 1	7300 F 7	
2615 E 5	3511 D 2	7301 D 7	
2616 D 4	3512 A 2	7401 C 5	
2625 E 5	3513 E 1	7504 D 4	
2628 D 5	3514 E 1	7505 C 1	
2638 H 2	3515 F 1	7506 D 2	
2639 I 3	3517 B 3	7507 D 4	
2642 H 3	3518 A 2	7602 F 5	

2310 = 10nF (213 - 216 - 316)
3,3nF (243 - 246 - 343 - 346)

TUNER IC91 PART 2
[TU02]

22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02

Only 243-246-343-346 (AM-FM)

Only 213-216-316 (FM Only)

TEA6821

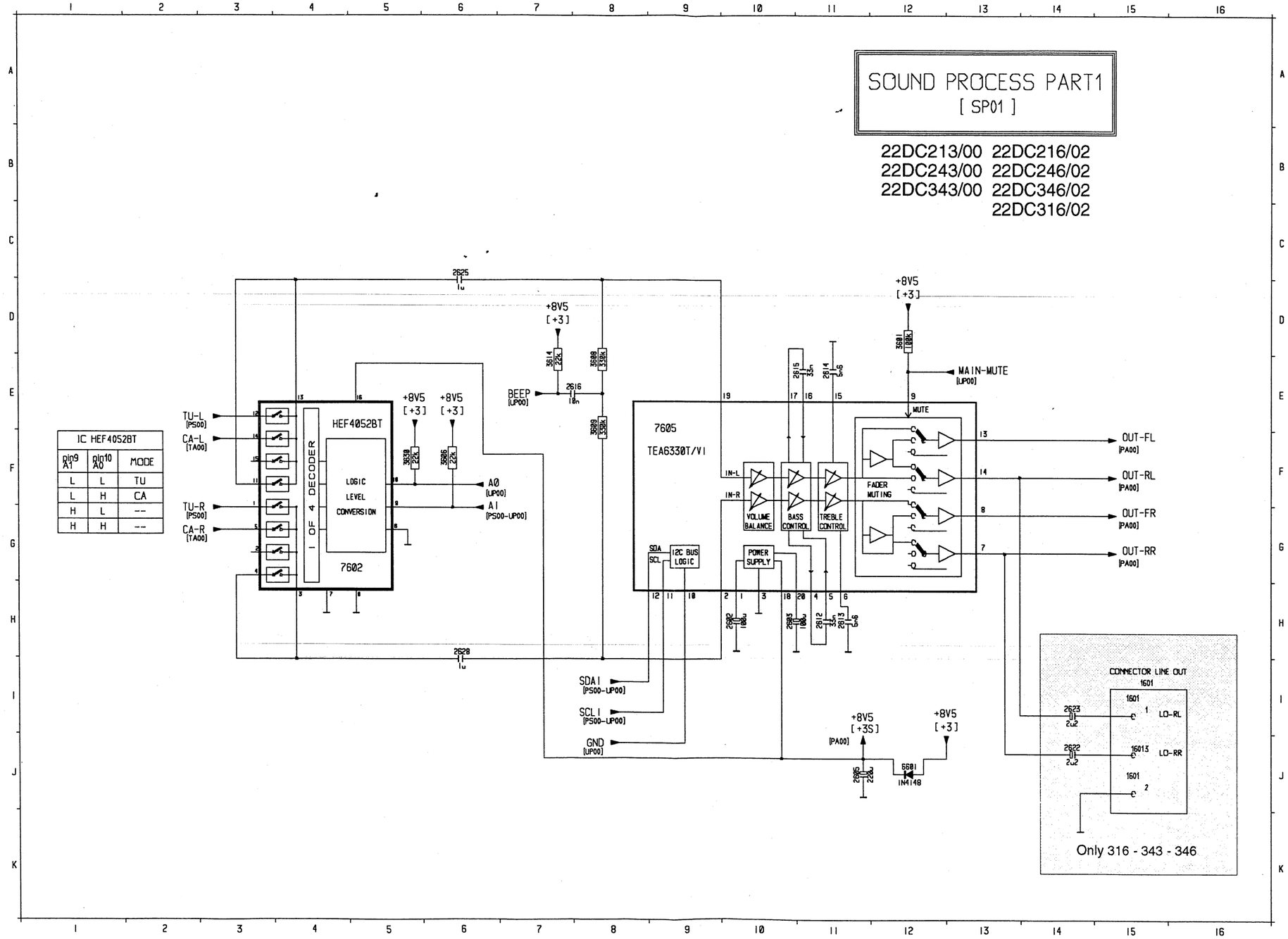
1300 A 5
1301 C 2
1302 C 4
1303 D 2
2214 D 1
2224 G 3
2228 F 4
2229 E 1
2232 E 1
2300 I 16
2301 D 4
2302 J 16
2305 C 4
2306 H 16
2307 B 6
2308 B 6
2309 A 11
2310 B 11
2311 B 10
2312 A 11
2313 C 12
2314 E 16
2315 D 17
2316 F 16
2317 G 16
2318 K 13
2320 K 9
2321 K 9
2322 K 8
2324 A 14
2325 A 15
2327 B 9
2328 J 17
2330 E 4
2332 H 17
2333 A 2
2340 B 12
2349 C 3
3208 J 3
3209 J 3
3212 C 1
3300 K 12
3301 K 10
3302 K 11
3303 K 12
3305 A 9
3306 B 9
3307 B 8
3308 A 11
3309 A 12
3310 D 16
3313 I 17
3314 K 11
3317 B 14
3318 C 4
3319 B 9
3321 B 7
3322 A 6
3323 B 3
3324 B 3
3325 C 3
3326 C 3
3327 A 3
3330 B 6
3341 C 3
3342 B 4
3343 B 4
3346 A 12
3347 A 12
3348 A 5
3349 B 7
4300 G 4
5208 C 2
5209 F 3
5210 F 4
5301 A 5
5302 B 7
7300 J 14
7301 C 3

SOUND PROCESS PART1

[SP01]

22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02

IC HEF4052BT		
pin9 A1	pin10 A0	MODE
L	L	TU
L	H	CA
H	L	--
H	H	--

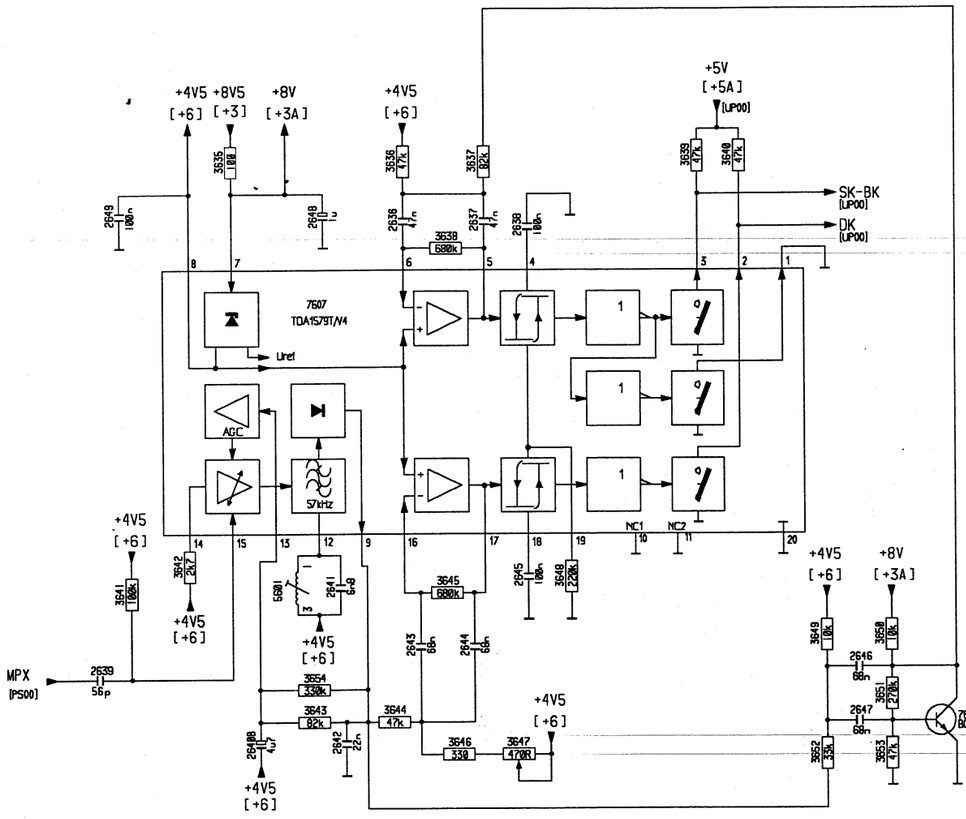


1601	I 5
2602	H10
2603	H11
2605	J11
2612	H11
2613	H11
2614	E11
2615	E11
2616	E 8
2622	J14
2623	I 4
2625	D 6
2628	I 6
3601	D12
3606	F 6
3608	E 8
3609	F 8
3614	E 7
3630	F 5
6601	J12
7602	G 5
7605	F 9

SOUND PROCESS PART2

[SP02]

22DC216/02 22DC246/02
22DC316/02 22DC346/02



	2636	D 6
	2637	D 7
	2638	D 8
	2639	H 4
	2640	I 5
A	2641	G 6
	2642	I 6
	2643	H 7
	2644	H 7
	2645	G 8
	2646	H11
	2647	H11
	2648	D 6
B	2649	D 4
	3635	C 5
	3636	C 6
	3637	C 7
	3638	D 7
	3639	C 9
	3640	C10
C	3641	G 4
	3642	G 4
	3643	H 6
	3644	H 6
	3645	G 7
	3646	I 7
D	3647	I 8
	3648	G 8
	3649	H10
	3650	H11
	3651	H11
	3652	I10
	3653	I11
E	3654	H 6
	5601	G 5
	7607	D 5
	7608	H12

CONNECTOR	PIN Nber	FUNCTION
1501	9	A4 = + PERM
	4	A6 = ANT ELEC
	10	A7 = + ACC
	5	A8 = GROUND

POWER SUPPLY PART
[PS00]

22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02

CONNECTOR 1501
+ELEC AERIAL
+ACC
+PERM
+14V4 [+1]
+14V4 [+2PA] [PA00]
+8V5 [+3]
+5V [+5]
+5V [+4]
+14V4 [+2M] [TA00]
[+PERM] +14V4
ON/OFF
FRONT
HOLD [UP00]
RESET [UP00]
BD241A
BC847B
BC547
BZX79-F5V6
IN4148
14V-50mA
14V-88mA

SIGNALS CORRESPONDANCE
BETWEEN [TUNER IC91 TU01-TU02] AND
[POWER SUPPLY PS00]

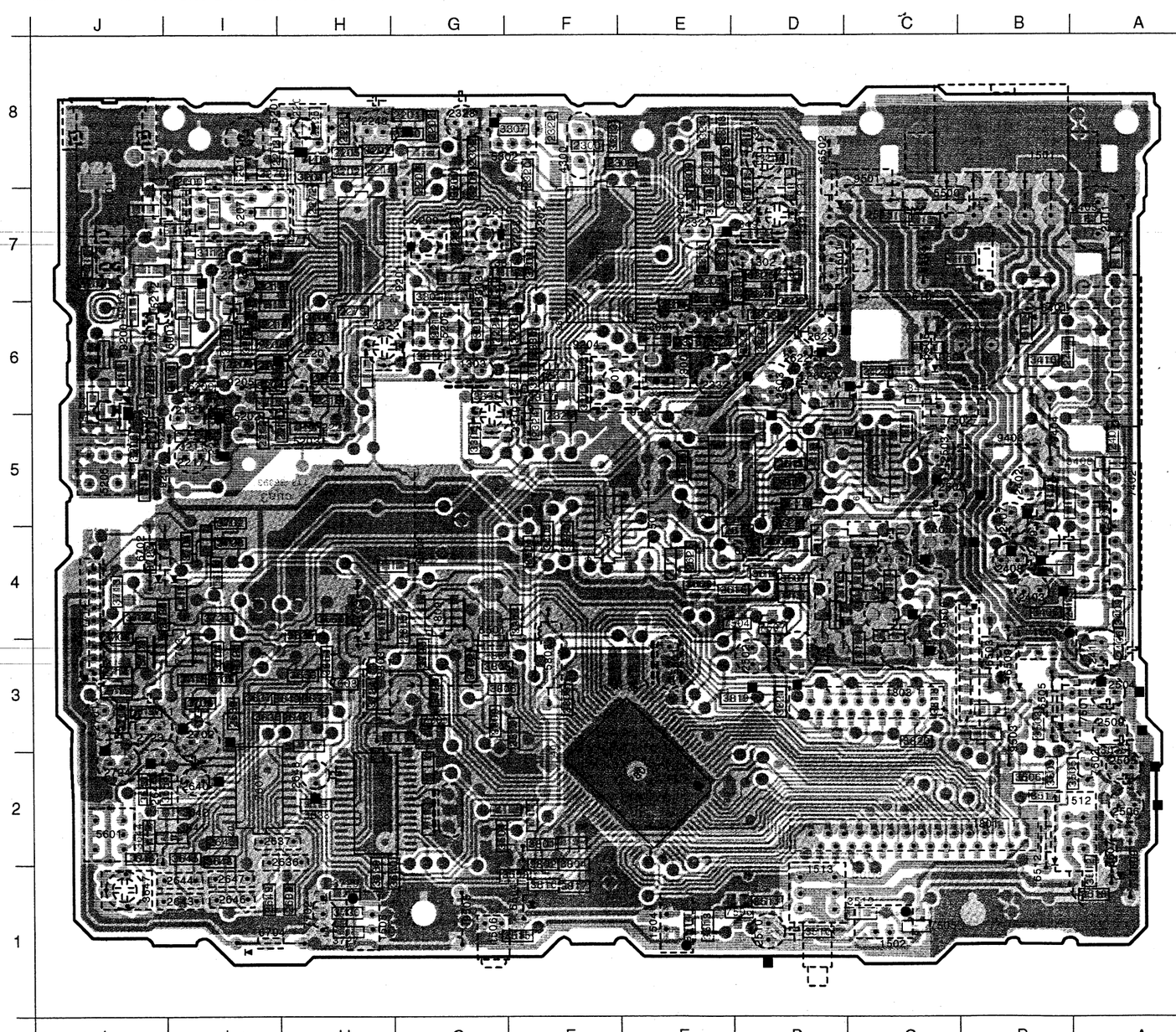
X001

1	GND	
2	+8V5-1	[TU02] [TU01]
3	GND	
4	LOCK-DET	[TU01]
5	+5V	[TU02] [TU01]
6	Vref	[TU02]
7	TU-L	[TU02]
8	MPX-RDS	[TU02]
9	TU-R	[TU02]
10	LEVEL	[TU02]
11	GND	
12	+8V5-2	[TU02]
13	I2C-SDA	[TU02]
14	GND	
15	I2C-SCL	
16	GND	[TU02]
17	A1	[TU02]
18		

Signals Coming From Tuner IC91 PART [TU01-TU02]

1501	F	2
1502	G	10
1503	E	10
1504	G	10
1505	G	11
1506	D	14
1506	D	14
1512	F	5
1513	F	6
2502	K	9
2503	D	9
2504	G	9
2505	J	7
2506	J	7
2507	F	3
2508	D	8
2509	H	8
2510	D	11
2515	J	3
3501	F	8
3502	F	8
3503	H	8
3504	D	8
3505	J	6
3506	J	8
3507	K	8
3508	J	8
3509	K	7
3510	C	12
3511	D	12
3512	B	10
3513	C	13
3514	D	13
3515	C	14
3517	I	5
3518	C	11
3519	E	6
5500	I	3
5503	F	3
6501	F	9
6502	F	3
6503	I	3
6504	F	7
6505	H	8
6506	D	8
6507	J	6
6509	G	4
6512	I	6
7501	G	8
7502	C	8
7503	I	7
7504	J	9
7505	B	13
7506	D	12
7507	K	8
9501	D	3
9503	E	7
9504	G	14
9505	F	11
9506	E	7
9507	G	14
9509	I	11
9510	F	4
X001	F	15

1001 J 8	1506 G 1	2220 H 6	2409 B 5	2510 D 1	2643 I 2	3319 G 6	5206 J 5	5503 C 7	6506 C 7	7502 C 6	9403 B 6	9803 H 3	22DC213/00
1300 E 6	1512 B 2	2249 H 8	2411 A 4	2602 D 6	2644 I 2	3321 D 8	5207 I 8	5601 J 2	6507 A 2	7503 A 3	9404 B 6		22DC216/02
1301 E 7	1513 D 2	2327 E 8	2502 D 4	2603 D 6	2646 I 2	3322 H 7	5208 G 7	5801 E 4	6509 B 4	7702 H 2	9501 C 8		22DC243/00
1302 D 7	1601 D 7	2328 G 8	2503 C 6	2605 C 5	2647 I 2	3647 J 2	5209 G 7	5803 F 4	6512 B 2	9200 J 7	9503 B 3		22DC246/02
1303 G 6	1714 J 4	2332 E 6	2504 A 3	2622 D 6	2648 H 3	4300 F 8	5210 G 8	6401 B 7	6601 D 5	9201 G 7	9504 G 5		22DC316/02
1501 B 8	1801 B 2	2401 A 8	2505 A 3	2623 D 7	2701 J 3	5001 I 7	5211 J 6	6501 G 4	6702 J 5	9202 F 7	9505 G 1		22DC343/00
1502 C 1	1803 C 3	2402 B 5	2506 A 2	2636 H 2	2702 I 3	5200 I 6	5212 J 7	6502 D 8	6703 H 4	9203 E 6	9506 C 4		22DC346/02
1503 B 4	2121 I 6	2403 B 4	2507 B 7	2637 I 2	2723 J 3	5201 H 8	5301 F 6	6503 B 4	6704 I 1	9204 F 7	9507 E 5		
1504 E 1	2217 I 6	2407 B 5	2508 C 5	2640 I 3	2724 J 3	5202 I 6	5302 F 8	6504 F 2	7402 A 5	9205 I 6	9509 A 2		
1505 H 2	2219 I 7	2408 B 5	2509 A 3	2641 J 2	3303 G 7	5203 H 6	5500 C 8	6505 B 3	7501 A 3	9207 I 6	9510 C 7		



2000 I 3	2645 I 2	3519 C 2	7605 E 5
2001 J 7	2649 I 2	3601 F 5	7607 I 3
2016 J 7	2714 J 4	3606 F 5	7608 H 4
2104 J 6	2715 J 3	3608 E 4	7701 G 3
2200 G 8	2725 I 4	3609 D 5	7703 I 4
2201 G 8	2726 J 4	3614 D 5	7801 E 3
2202 G 8	2803 F 3	3630 F 5	7809 G 4
2203 H 8	2805 G 4	3635 H 4	
2204 H 8	3110 I 6	3636 I 3	
2205 H 8	3112 I 7	3637 I 3	
2206 I 6	3113 I 8	3638 H 2	
2207 H 7	3200 G 8	3639 H 2	
2208 I 7	3201 H 8	3640 G 2	
2209 I 6	3202 H 8	3641 I 2	
2210 I 7	3203 I 7	3642 I 2	
2211 H 6	3204 I 6	3643 J 3	
2212 I 6	3205 J 6	3644 J 2	
2213 H 6	3206 J 6	3645 I 2	
2214 G 7	3208 G 8	3646 J 2	
2215 H 8	3209 G 8	3648 I 2	
2218 I 7	3210 J 7	3649 H 3	
2221 H 8	3211 I 6	3650 H 4	
2223 J 6	3212 G 6	3651 H 4	
2224 G 8	3213 H 6	3652 H 3	
2225 H 8	3290 H 7	3653 H 4	
2227 H 6	3292 H 8	3654 J 3	
2228 F 8	3300 G 7	3701 I 5	
2229 G 7	3301 F 7	3702 I 5	
2230 I 6	3302 G 7	3704 I 4	
2231 I 7	3305 G 6	3705 I 4	
2232 F 7	3306 G 6	3706 I 3	
2270 I 8	3307 F 8	3707 J 4	
2271 H 7	3308 E 8	3708 J 4	
2272 H 8	3309 E 8	3709 J 4	
2273 H 7	3310 F 6	3710 J 3	
2300 F 8	3313 F 8	3711 J 3	
2301 F 6	3314 F 7	3713 J 4	
2302 G 8	3317 F 6	3715 I 4	
2305 E 7	3318 E 7	3721 I 4	
2306 E 8	3323 D 7	3722 G 4	
2307 E 7	3324 D 7	3723 J 5	
2308 E 7	3325 D 7	3724 H 3	
2309 E 8	3326 E 7	3725 G 4	
2310 E 8	3327 D 7	3726 G 3	
2311 D 8	3330 H 6	3727 H 1	
2312 D 8	3341 D 7	3728 I 5	
2313 E 8	3342 F 6	3729 H 2	
2314 E 7	3343 F 6	3730 H 2	
2315 F 6	3346 D 8	3801 F 2	
2316 E 7	3347 D 8	3802 F 2	
2317 E 7	3348 E 6	3804 F 2	
2318 E 8	3349 D 8	3805 G 4	
2320 F 8	3403 A 8	3806 G 3	
2321 E 8	3406 B 4	3809 G 3	
2322 F 8	3408 A 5	3810 F 3	
2324 F 6	3409 A 4	3814 F 4	
2325 F 6	3410 B 6	3815 G 4	
2330 F 7	3412 D 6	3816 F 2	
2333 D 7	3415 C 6	3817 F 2	
2340 E 8	3420 C 6	3818 C 3	
2349 D 7	3501 G 2	3819 D 3	
2404 A 5	3502 F 2	3820 C 3	
2405 A 6	3503 B 3	3821 D 3	
2406 A 4	3504 C 7	6200 I 5	
2413 B 4	3505 B 3	6201 I 8	
2414 B 6	3506 B 3	6202 I 7	
2515 C 8	3507 D 4	7200 H 8	
2612 D 5	3508 A 3	7201 I 7	
2613 D 5	3509 B 3	7202 H 7	
2614 D 5	3510 D 1	7300 F 7	
2615 E 5	3511 D 2	7301 D 7	
2616 D 4	3512 A 2	7401 C 5	
2625 E 5	3513 E 1	7504 D 4	
2628 D 5	3514 E 1	7505 C 1	
2633 H 2	3515 F 1	7506 D 2	
2639 I 3	3517 B 3	7507 D 4	
2642 H 3	3518 A 2	7602 F 5	

MICRO CONTROLER PART

[UP00]

22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02

CONNECTOR LCD 1801

LCD DRIVER

POWER SUPPLY

SYSTEM CONTROLLER

WATCHDOG

CLOCK GENERATOR

CPU

RAM

ROM

7801A

TMP47C620

GB VERSION

HOLD [PS00]

RESET [PS00]

SELECT-2

SELECT-1

CST6.0MGW

Only 243-246-343-346

Only 213-216-316

Only 216-246-316-346

Only 213-243-343

CONNECTOR KEYBOARD

SCL2

SDA2

SCL1 [SP01]

SDA1 [SP01]

BEEP [SP01] [PA00]

PA-MUTE

SK-BK [SP02]

DK [SP02]

MAIN-MUTE [SP01]

A0 [SP01]

A1 [SP01-PS00]

CA-TRACK [TA00]

CA-MUTE [TA00]

CA-STOP [TA00]

CA-PLAY [TA00]

7809 ST24C02A

MEMORY REGISTER

ADDRESS CTR

CONTROL LOGIC

REGISTER COMPARATOR

TEST

+5V [+4]

+5V [+5]

[+4] +5V

[+5] +5V

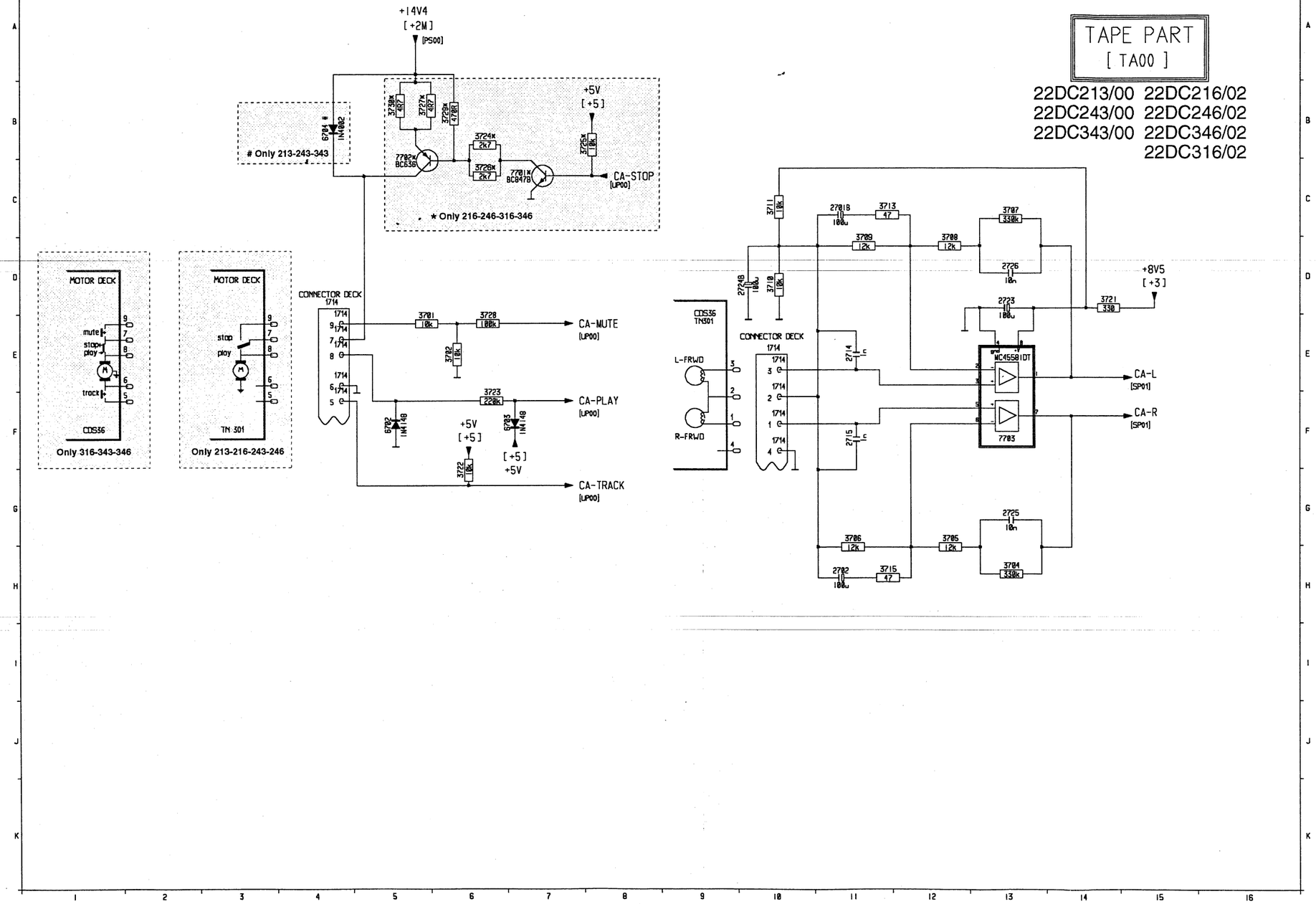
+5V [+5A] [SP02]

GND [SP01]

1801	A	8
1803	F	6
2803	B	2
2805	E	13
3801	C	1
3802	C	1
3803	E	1
3804	E	1
3805	F	11
3806	F	11
3809	E	12
3810	E	12
3814	E	16
3815	E	16
3816	H	8
3817	H	9
3818	G	5
3819	G	5
3820	G	5
3821	H	5
5801	E	2
5803	A	2
7801A	D	4
7809	E	14
9803	I	15

TAPE PART
[TA00]

22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02



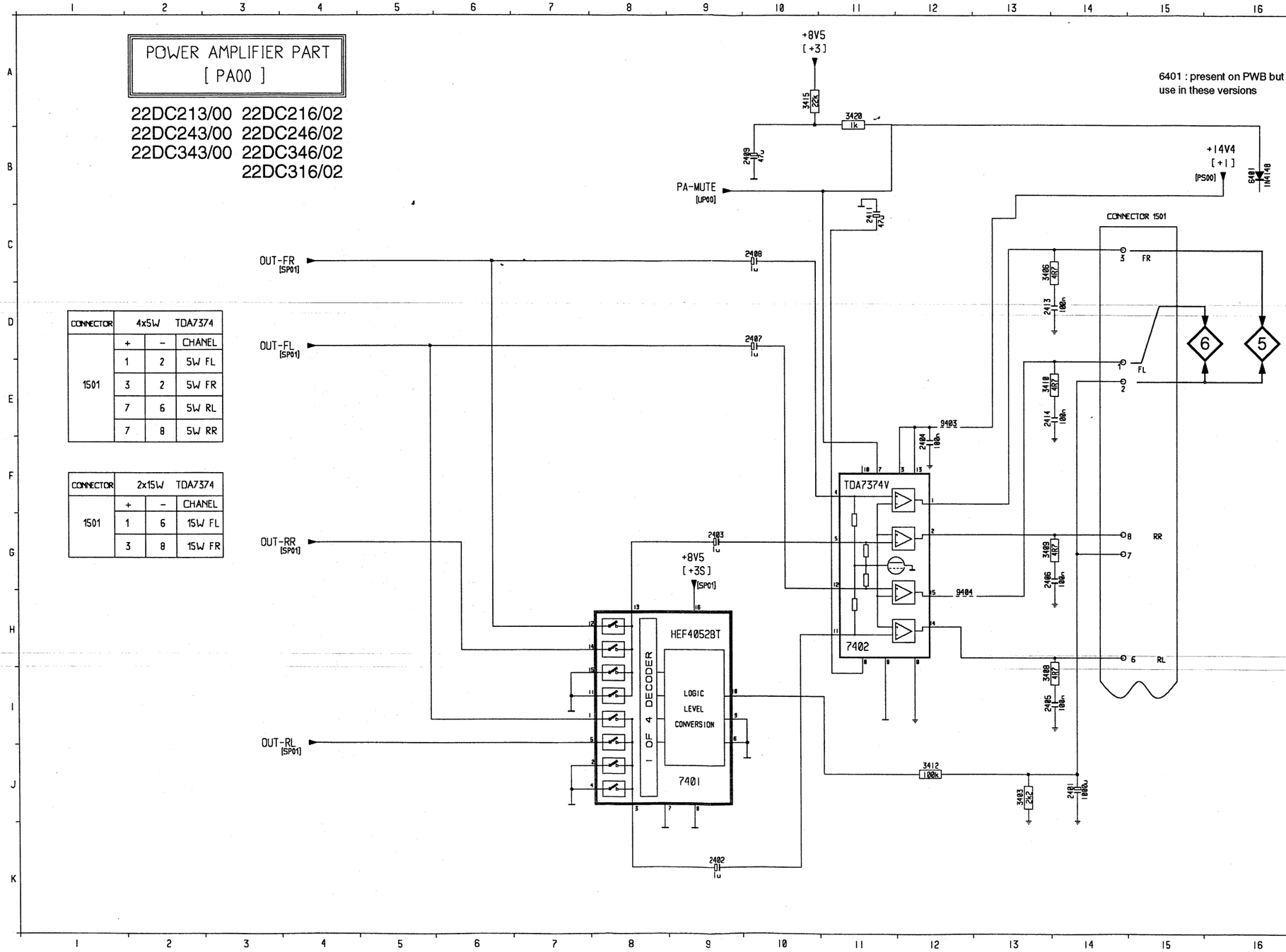
1714 E10
1714 E 4
2701 C11
2702 H11
2714 E11
2715 F11
2723 D13
2724 D10
2725 G13
2726 D13
3701 E 5
3702 E 6
3704 H13
3705 G12
3706 G11
3707 C13
3708 D12
3709 D11
3710 D10
3711 C10
3713 C11
3715 H11
3721 D14
3722 G 6
3723 F 6
3724 B 6
3725 B 7
3726 C 6
3727 B 5
3728 E 6
3729 B 5
3730 B 5
6702 F 5
6703 F 7
6704 B 4
7701 C 7
7702 C 5
7703 F13

POWER AMPLIFIER PART
[PA00]

22DC213/00 22DC216/02
22DC243/00 22DC246/02
22DC343/00 22DC346/02
22DC316/02

CONNECTOR	4x5W		TDA7374
	+	-	CHANEL
1501	1	2	5W FL
	3	2	5W FR
	7	6	5W RL
	7	8	5W RR

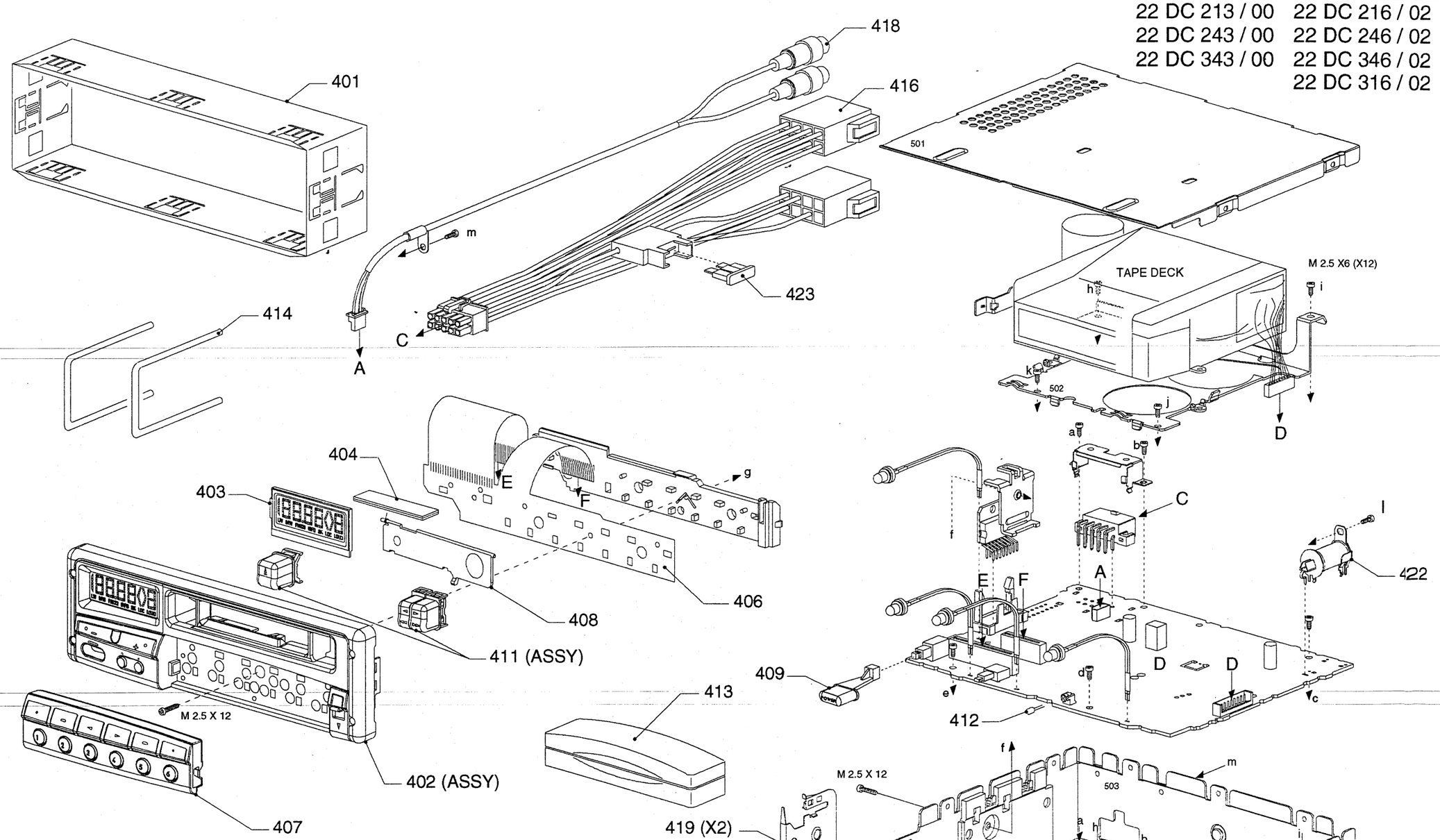
CONNECTOR	2x15W		TDA7374
	+	-	CHANEL
1501	1	6	15W FL
	3	8	15W FR



6401 : present on PWB but not use in these versions

1501	G14
2401	J14
2402	K 9
2403	G 9
2404	F12
2405	I13
2406	G13
2407	D10
2408	C10
2409	B10
2411	C11
2413	D13
2414	E13
3403	J13
3406	C13
3408	I13
3409	G13
3410	E13
3412	J12
3415	A10
3420	A11
6401	B16
7401	J 9
7402	H11
9403	E12
9404	H12

22 DC 213 / 00 22 DC 216 / 02
22 DC 243 / 00 22 DC 246 / 02
22 DC 343 / 00 22 DC 346 / 02
22 DC 316 / 02



401	4822 443 30463	SLEEVE	409	4822 410 63582	ON/OFF BUTTON
402	4822 459 50902	FRONT PLATE ASSY (213-216-243-246)	411	4822 410 63082	EJECT BUTTON (213-216-243-246)
	4822 459 50898	FRONT PLATE ASSY (316-343-346)		4822 410 63058	SET OF BUTTONS DECK (316-343-346)
403	4822 130	L.C.D	412	4822 130 83612	BLINKING LED
404	4822 265	ZEBRA CONNECTOR	413	4822 600 70757	CASE D.U.
406	4822 321 62348	FLEX-FOIL	414	4822 404 20437	DEMOUNTING BRACKETS
407	4822 459	DET-UNIT (213-243-343)	416	4822 321 62354	CABLE POWER+L.S.
	4822 459	DET-UNIT (216-246-316-346)	418	4822 321 62351	LINE-OUT CABLE (316-343-346)
408	4822 443 64379	FLAP CASSETTE (213)	419	4822 492 71046	SPRING CLAMPING
	4822 443 64381	FLAP CASSETTE (216)	422	4822 267 30883	AERIAL BUSH ASSY
	4822 443 64382	FLAP CASSETTE (243)	423	4822 071 25002	FUSE BLADE 5A
	4822 443 64372	FLAP CASSETTE (246)			
	4822 443 64362	FLAP CASSETTE (316)	TAPE DECK : TN-301NX-265		(213-216-243-246)
	4822 443 64367	FLAP CASSETTE (343)	CDS36-PR		(316-343-346)
	4822 443 64368	FLAP CASSETTE (346)			

Miscellaneous		
1300	4822 242 81503	SFP450H
1301	4822 242 73779	SFE10,7MS3-K18-A
1302	4822 242 73779	SFE10,7MS3-K18-A
1303	4822 242 73779	SFE10,7MS3-K18-A
1501	4822 265 41379	CONNECTOR 10P
1502	4822 134 41174	50MA 14V T1.25
1503	4822 134 41173	50MA 14V T1.25
1504	4822 134 41175	80MA 14V T1.25
1505	4822 134 41175	80MA 14V T1.25
1512	4822 276 13483	SWITCH
1513	4822 276 13484	SWITCH
1601	4822 267 40678	CONNECTOR 3P M2.5
1714	4822 265 41385	CONNECTOR 9P
1801	4822 267 60378	CONNECTOR 27P
1803	4822 267 50915	CONNECTOR 15P
⊣⊢		
2000	5322 122 31946	27PF 5%NP0 63V
2001	5322 122 32658	22PF 5% 50V
2016	5322 122 33244	8,2PF 5%NPO 50V
2104	5322 122 34123	1NF10%X7R 50V
2121	4822 124 41017	10UF 20% 16V
2200	4822 122 33496	100NF10%X7R 63V
2201	5322 122 34098	10NF10%X7R 63V
2202	4822 122 33496	100NF10%X7R 63V
2203	5322 122 33063	2,2PF 5%NP0 50V
2204	5322 126 10343	1,8PF 5%NP0 63V
2205	5322 122 33446	3,3NF10%X7R 63V
2206	5322 122 33244	8,2PF 5%NPO 50V
2207	4822 126 11692	1UF 20%
2208	5322 122 32531	100PF 5%NP0 50V
2209	5322 122 31946	27PF 5%NP0 63V
2210	4822 122 33496	100NF10%X7R 63V
2211	4822 122 33216	270PF 5%NP0 50V
2212	5322 122 33446	3,3NF10%X7R 63V
2213	4822 122 33496	100NF10%X7R 63V
2214	5322 122 32654	22NF10%X7R 63V
2215	4822 122 33496	100NF10%X7R 63V
2217	4822 124 23279	22UF20% 16V
2218	4822 126 11692	1UF 20%
2219	4822 124 80837	33UF20% 16V
2220	4822 124 23281	33UF20% 16V
2221	5322 122 32452	47PF 5%NP0 63V
2223	5322 122 34098	10NF10%X7R 63V
2224	5322 122 34098	10NF10%X7R 63V
2225	5322 122 32269	6,8PF 5% 50V
2227	4822 126 10326	180PF 5%NP0 63V
2228	5322 122 32287	4,7PF 5%NP0 50V
2229	5322 122 32448	10PF 5% 50V
2230	4822 126 11692	1UF 20%
2231	5322 122 32448	10PF 5% 50V
2232	5322 122 32448	10PF 5% 50V
2249	4822 124 41584	100UF 20% 10V
2270	5322 122 34123	1NF10%X7R 50V
2271	5322 122 34123	1NF10%X7R 50V
2272	5322 122 32269	6P8 5% NPO 0805
2273	4822 126 11692	1UF 20%
2300	4822 126 11692	1UF 20%
2301	5322 122 32654	22NF10%X7R 63V
2302	4822 122 33496	100NF10%X7R 63V
2305	4822 122 33496	100NF10%X7R 63V
2306	4822 122 33496	100NF10%X7R 63V
2307	4822 122 33496	100NF10%X7R 63V
2308	4822 122 33496	100NF10%X7R 63V
2309	5322 122 34098	10NF10%X7R 63V
2310	5322 122 33446	3,3NF10%X7R 63V
2310	5322 122 34098	10NF 10% X7R 63V
2311	4822 126 13057	220NF10% X7R 25V
2312	4822 122 33514	68PF 5%NP0 50V
2313	4822 126 13057	220NF10% X7R 25V
2314	5322 122 31866	6,8NF10%X7R 63V
2315	4822 122 33496	100NF10%X7R 63V
2316	4822 126 13057	220NF10% X7R 25V
2317	5322 122 31866	6,8NF10%X7R 63V
2318	5322 122 32654	22NF10%X7R 63V
2320	4822 122 33496	100NF10%X7R 63V
2321	4822 122 33496	100NF10%X7R 63V
2322	4822 126 13057	220NF10% X7R 25V
2324	4822 126 13057	220NF10% X7R 25V
2325	5322 122 32654	22NF10%X7R 63V
2327	4822 124 23256	47UF 20% 16V
2328	5322 124 41431	22UF20% 35V
2330	4822 122 33496	100NF10%X7R 63V
2332	4822 124 80837	33UF20% 16V
2333	5322 122 34098	10NF10%X7R 63V
2340	5322 122 32448	10PF 5% NP0
2349	5322 122 34098	10NF10%X7R 63V
2401	4822 124 40201	1000UF20% 16V
2402	4822 124 23282	1UF20% 50V
2403	4822 124 23282	1UF20% 50V
2404	4822 122 33496	100NF10%X7R 63V
2405	4822 122 33496	100NF10%X7R 63V
2406	4822 122 33496	100NF10%X7R 63V
2407	4822 124 23282	1UF20% 50V
2408	4822 124 23282	1UF20% 50V
2409	4822 124 23256	47UF 20% 16V
2411	4822 124 23256	47UF 20% 16V
2413	4822 122 33496	100NF10%X7R 63V
2414	4822 122 33496	100NF10%X7R 63V
2502	4822 124 23504	2,2UF20% 50V
2503	5322 124 41431	22UF20% 35V
2504	5322 124 41431	22UF20% 35V
2505	5322 124 41431	22UF20% 35V
2506	4822 124 40248	10UF20% 63V
2507	4822 124 80629	2200UF 20% 16V
2508	5322 124 41431	22UF20% 35V
2509	4822 124 40248	10UF20% 63V
2510	5322 124 41431	22UF20% 35V
2515	5322 122 32531	100PF 5%NP0 50V
2602	4822 124 80453	100UF20% 10V
2603	4822 124 80453	100UF20% 10V
2605	4822 124 80836	220UF20% 10V
2612	4822 122 33342	33NF 10% X7R 63V
2613	4822 122 32646	5,6NF10%X7R 50V
2614	4822 122 32646	5,6NF10%X7R 50V
2615	4822 122 33342	33NF10%X7R 63V
2616	5322 122 34098	10NF10%X7R 63V
2622	4822 124 23504	2U2 20% 50V
2623	4822 124 23504	2U2 20% 50V
2625	4822 126 11692	1UF 20%
2628	4822 126 11692	1UF 20%

2636	4822 121 43526	47N 5% 100V
2637	4822 121 43526	47N 5% 100V
2638	4822 122 33496	100NF 10% 63V
2639	5322 126 12506	56P 5% NPO 63V
2640	4822 124 80765	4MU7 20% 35V
2641	4822 121 43101	6N8 5% 63V
2642	5322 122 32654	22N 10% X7R 63V
2643	5322 121 42465	68N 5% 63V
2644	5322 121 42465	68N 5% 63V
2645	4822 122 33496	100N 10% 63V
2646	5322 121 42465	68N 5% 63V
2647	5322 121 42465	68N 5% 63V
2648	4822 124 23282	1MU 10% 50V
2649	4822 122 33496	100N 10% 63V
2701	4822 124 80453	100UF20% 10V
2702	4822 124 80453	100UF20% 10V
2714	5322 122 34123	1NF10%X7R 50V
2715	5322 122 34123	1NF10%X7R 50V
2723	4822 124 80453	100UF20% 10V
2724	4822 124 80453	100UF20% 10V
2725	5322 122 34098	10NF10%X7R 63V
2726	5322 122 34098	10NF10%X7R 63V
2803	5322 122 32654	22NF10%X7R 63V
2805	5322 122 32654	22NF10%X7R 63V
⊣▭⊢		
3110	4822 051 20229	22R00 5% 0,1W
3112	4822 051 20008	0R00 JUMP. (0805)
3113	4822 051 20008	0R00 JUMP. (0805)
3200	4822 051 20392	3K90 5% 0,1W
3201	4822 051 20222	2K20 5% 0,1W
3202	4822 051 20103	10K00 5% 0,1W
3203	4822 051 20221	220R00 5% 0,1W
3204	4822 051 20471	470R00 5% 0,1W
3205	4822 051 20471	470R00 5% 0,1W
3206	4822 051 20101	100R00 5% 0,1W
3208	4822 051 20103	10K00 5% 0,1W
3209	4822 051 20103	10K00 5% 0,1W
3210	4822 051 20225	2M20 5% 0,1W
3211	4822 051 20479	47R00 5% 0,1W
3212	4822 051 20229	22R00 5% 0,1W
3213	4822 051 20008	0R00 JUMP. (0805)
3290	4822 051 20224	220K00 5% 0,1W
3292	4822 051 20229	22R00 5% 0,1W
3301	4822 051 20335	3M30 5% 0,1W
3302	4822 051 20333	33K00 5% 0,1W
3303	4822 100 20166	10K 30%LIN 0,1W
3305	4822 051 20333	33K00 5% 0,1W
3306	4822 051 20333	33K00 5% 0,1W
3307	4822 051 20432	4K30 5% 0,1W
3308	4822 051 20224	220K00 5% 0,1W
3309	4822 051 20124	120K00 5% 0,1W
3310	4822 051 20684	680K00 5% 0,1W
3313	4822 051 20124	120K00 5% 0,1W
3314	4822 051 20564	560K00 5% 0,1W
3317	4822 051 20273	27K00 5% 0,1W
3318	4822 051 20391	390R00 5% 0,1W
3319	4822 100 11163	100K 30%LIN 0,1W
3321	4822 100 11163	100K 30%LIN 0,1W
3322	4822 100 11163	100K 30%LIN 0,1W
3323	4822 051 20391	390R00 5% 0,1W
3324	4822 051 20272	2K70 5% 0,1W
3325	4822 051 20101	100R00 5% 0,1W
3326	4822 051 20102	1K00 5% 0,1W
3327	4822 051 20681	680R00 5% 0,1W
3330	4822 051 20473	47K 5% 0.1W
3341	4822 051 20109	10R00 5% 0,1W
3342	4822 051 20008	0R00 JUMP. (0805)
3343	4822 051 20008	0R00 JUMP. (0805)
3346	4822 051 20473	47K00 5% 0,1W
3347	4822 051 20008	0R00 JUMP. (0805)
3348	4822 051 20681	680R00 5% 0,1W
3349	4822 051 20223	22K00 5% 0,1W
3403	4822 051 20222	2K20 5% 0,1W
3406	4822 051 20478	4R70 5% 0,1W
3408	4822 051 20478	4R70 5% 0,1W
3409	4822 051 20478	4R70 5% 0,1W
3410	4822 051 20478	4R70 5% 0,1W
3412	4822 051 20104	100K 5% 0,1W
3415	4822 051 20223	22K00 5% 0,1W
3420	4822 051 20102	1K00 5% 0,1W
3501	4822 051 20104	100K00 5% 0,1W
3502	4822 051 20103	10K00 5% 0,1W
3503	4822 051 20222	2K20 5% 0,1W
3504	4822 051 20681	680R00 5% 0,1W
3505	4822 051 20222	2K20 5% 0,1W
3506	4822 051 20104	100K00 5% 0,1W
3507	4822 051 20103	10K00 5% 0,1W
3508	4822 051 20103	10K00 5% 0,1W
3509	4822 051 20473	47K00 5% 0,1W
3510	4822 051 20273	27K00 5% 0,1W
3511	4822 051 20123	12K00 5% 0,1W
3512	4822 051 20223	22K00 5% 0,1W
3513	4822 051 20123	12K00 5% 0,1W
3514	4822 051 20222	2K20 5% 0,1W
3515	4822 051 20222	2K20 5% 0,1W
3517	4822 051 20272	2K70 5% 0,1W
3518	4822 051 20334	330K00 5% 0,1W
3519	4822 051 20473	47K00 5% 0,1W
3601	4822 051 20104	100K00 5% 0,1W
3606	4822 051 20223	22K00 5% 0,1W
3608	4822 051 20334	330K00 5% 0,1W
3609	4822 051 20334	330K00 5% 0,1W
3614	4822 051 20223	22K00 5% 0,1W
3630	4822 051 20223	22K00 5% 0,1W
3635	4822 051 20101	100R00 5% 0,1W
3636	4822 051 20473	47K00 5% 0,1W
3637	4822 051 20823	82K 5% 0,1W
3638	4822 051 20684	680K 5% 0,1W
3639	4822 051 20473	47K00 5% 0,1W
3640	4822 051 20473	47K00 5% 0,1W
3641	4822 051 20104	100K 5% 0,1W
3642	4822 051 20272	2K7 5% 0,1W
3643	4822 051 20823	82K 5% 0,1W
3644	4822 051 20473	47K 5% 0,1W
3645	4822 051 20684	680K 5% 0,1W
3646	4822 051 20331	330R 5% 0,1W
3647	4822 100 11677	470R 5% 30% LIN 0,1W
3648	4822 051 20224	220K 5% 0,1W
3649	4822 051 20103	10K 5% 0,1W
3650	4822 051 20103	10K 5% 0,1W

3651	4822 051 20274	270K 5% 0,1W
3652	4822 051 20333	33K 5% 0,1W
3653	4822 051 20473	47K 5% 0,1W
3654	4822 051 20334	330K 5% 0,1W
3701	4822 051 20103	10K00 5% 0,1W
3702	4822 051 20103	10K00 5% 0,1W
3704	4822 051 20334	330K00 5% 0,1W
3705	4822 051 20123	12K00 5% 0,1W
3706	4822 051 20123	12K00 5% 0,1W
3707	4822 051 20334	330K00 5% 0,1W
3708	4822 051 20123	12K00 5% 0,1W
3709	4822 051 20123	12K00 5% 0,1W
3710	4822 051 20103	10K00 5% 0,1W
3711	4822 051 20103	10K00 5% 0,1W
3713	4822 051 20479	47R00 5% 0,1W
3715	4822 051 20479	47R00 5% 0,1W
3721	4822 051 20331	330R00 5% 0,1W
3722	4822 051 20103	10K00 5% 0,1W
3723	4822 051 20224	220K00 5% 0,1W
3724	4822 051 20272	2K70 5% 0,1W
3725	4822 051 20103	10K00 5% 0,1W
3726	4822 051 20272	2K70 5% 0,1W
3727	4822 051 20478	4R70 5% 0,1W
3728	4822 051 20104	100K00 5% 0,1W
3729	4822 051 20471	470R00 5% 0,1W
3730	4822 051 20478	4R70 5% 0,1W
3801	4822 051 20223	22K00 5% 0,1W
3802	4822 051 20223	22K00 5% 0,1W
3804	4822 051 20103	10K00 5% 0,1W
3805	4822 051 20103	10K00 5% 0,1W
3806	4822 051 20103	10K00 5% 0,1W
3809	4822 051 20103	10K00 5% 0,1W
3810	4822 051 20103	10K00 5% 0,1W
3814	4822 051 20103	10K00 5% 0,1W
3815	4822 051 20103	10K00 5% 0,1W
3816	4822 051 20223	22K00 5% 0,1W
3817	4822 051 20103	10K00 5% 0,1W
3818	4822 051 20104	100K00 5% 0,1W
3819	4822 051 20104	100K00 5% 0,1W
3820	4822 051 20104	100K00 5% 0,1W
3821	4822 051 20104	100K00 5% 0,1W

4300	4822 242 81698	AF9192C-A (61,5MHZ)
5001	4822 156 21723	IND FXD LAL02 A 0UH22 5%
5200	4822 157 63315	IND FXD LAL02 220UH 10%
5201	4822 157 71059	IND VAR 7MM 100MHz
5202	4822 152 20679	IND FXD LAL02A 68UH 10%
5203	4822 157 53473	IND FXDLAL04 1000UH 10%
5206	4822 157 71057	IND VAR 7MM 7CDA 47000U
5207	4822 157 71058	FIL LC VAR 98M KZV-353
5208	4822 156 21722	IND VAR 7CGL 10.7MHZ
5209	4822 157 71055	IND VAR 72MHZ2 5MM
5210	4822 157 71055	IND VAR 72MHZ2 5MM
5211	4822 156 21721	IND FXD LAL02A 2UH2 10%
5212	4822 156 21719	IND FXD LAL02A 1UH5 10%
5301	4822 156 21724	IND VAR 7CGL 10.7MHZ
5302	4822 157 71061	IND VAR 7MM 7P 10.7MHz
5500	4822 152 20677	IND FXD LAL02 10UH 10%
5503	4822 157 70839	CHOCK COIL ASSY

5601	4822 156 40738	DECODER COIL
5801	4822 242 81002	RES CER 6MHz CST6.00
5803	4822 157 53473	IND FXDLAL04 1000UH 10%

6200	5322 130 34337	BAV99
6201	4822 130 83613	BA779
6202	4822 130 83613	BA779
6401	4822 130 30621	1N4148
6501	4822 130 30621	1N4148
6502	4822 130 80291	1N4002GP
6503	4822 130 30621	1N4148
6504	4822 130 34173	BZX79-C5V6
6505	4822 130 34173	BZX79-C5V6
6506	4822 130 30862	BZX79-C9V1
6507	4822 130 34173	BZX79-C5V6
6509	4822 130 30621	1N4148
6512	4822 130 30621	1N4148
6601	4822 130 30621	1N4148
6702	4822 130 30621	1N4148
6703	4822 130 30621	1N4148

7200	4822 130 83614	BB135
7201	4822 130 63534	PMBFJ309
7202	4822 209 33168	TEA6811V/C2/R1
7300	4822 209 33167	TEA6821T/V2
7301	4822 130 60887	BF840
7401	5322 209 11102	HEF4052BT
7402	4822 209 31132	TDA7374V
7501	4822 130 62732	BD241A
7502	4822 130 62732	BD241A
7503	4822 130 44257	BC547
7504	4822 130 60511	BC847B
7505	4822 130 60511	BC847B
7506	4822 130 60511	BC847B
7507	4822 130 60511	BC847B
7602	5322 209 11102	HEF4052BT
7605	4822 209 31979	TEA6330T/V1
7607	4822 209 31007	TDA1579
7608	4822 130 60511	BC847B
7701	4822 130 60511	BC847B
7702	4822 130 44283	BC636
7703	4822 209 33162	MC4558IDT
7801	4822 209 33191	TMP47C620F/N744
7809	4822 900 10571	ST24C02AM6

PCS 80 102

Car cassette deck TN-301NX

-265

Service
Service
Service

Service Manual

12 V

For this type, please refer to Service Manual TN-301NX-227
(from week 405) with following exceptions:
Some brackets and a connecting cable have been added.
These deviations have been incorporated in the exploded view
and in the complete list of parts.

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PCS 74 129

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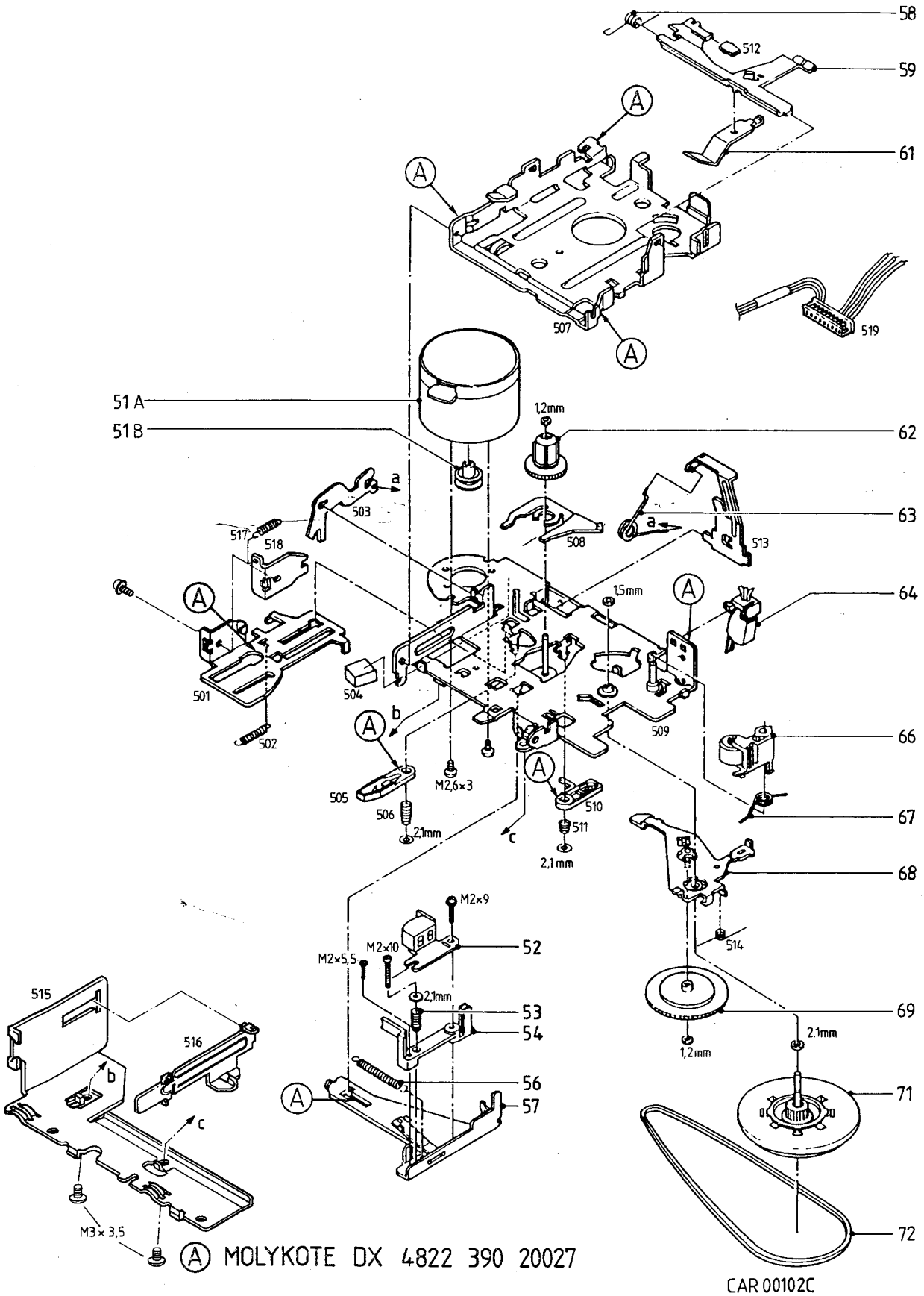
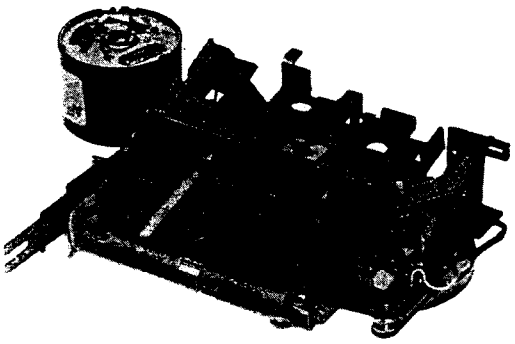


51	4822 361 30404	57	4822 466 82939	63	4822 492 42624	69	4822 522 20452
52	4822 249 30188	58	4822 492 33345	64	4822 271 30778	71	4822 528 60369
53	4822 492 52328	59	4822 466 82941	66	4822 403 20242	72	4822 358 31196
54	4822 404 21247	61	4822 492 71142	67	4822 492 42623		
56	4822 492 33344	62	4822 466 70743	68	4822 522 10458		

Car cassette deck TN-301NX

Service
Service
Service

-227
-234
-239



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ServiceManual

12 V ⊖⊣||

(GB)
TECHNICAL DATA

Tape speed	:	4,76 cm/sec. +3% -2%
Wow & flutter	:	< 0,35% (JIS)
Operating voltage	:	10 V ~ 16 V
Fast winding time	:	< 180 secs (C-60)

(NL)
TECHNISCHE GEGEVENS

Bandsnelheid	:	4,76 cm/sec. +3% -2%
Wow & flutter	:	< 0,35% (JIS)
Werkingsspanning	:	10 V ~ 16 V
Tijd snel opspoelen	:	< 180 sec (C-60)

(F)
CARACTERISTIQUES TECHNIQUES

Vitesse de défilement	:	4,76 cm/sec. +3% -2%
Pleurage et scintillement	:	< 0,35%
Tension de fonctionnement	:	10 V ~ 16 V
Durée de bobinage rapide	:	< 180 sec (C-60)

(D)
TECHNISCHE DATEN

Bandgeschwindigkeit	:	4,76 cm/sec. +3% -2%
Gleichlaufschwankungen	:	< 0,35%
Betriebsspannung	:	10 V ~ 16 V
SVL-Dauer	:	< 180 s (C-60)

(I)
DATI TECNICI

Velocità di trascinamento	:	4,76 cm/sec. +3% -2%
Wow e flutter	:	< 0,35%
Tensione di lavoro	:	10 V ~ 16 V
Tempo di avvolgimento	:	< 180 s (C-60)

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4822 725 24125

(GB) MAINTENANCE

The cassette mechanism requires periodic cleaning, as well as periodic lubrification of the principal points.

1. Cleaning with alcohol or spirit

Head, capstan, pressure roller, belt, pulleys.

To clean head, pressure roller and capstan it is also possible to use a drop-in cassette (SBC114–4822 389 20035).

2. Lubrification instructions

Refer to exploded view.

(NL) ONDERHOUD

Het cassette mechanisme dient periodiek schoongemaakt en op de belangrijkste punten gesmeerd te worden.

1. Schoonmaken met alcohol of spiritus

Kop, toonas, drukrol, snaar, poelies.

Voor het reinigen van kop, drukrol en toonas kan ook de "drop-in" cassette (SBC114–4822 389 20035) worden gebruikt.

2. Smeervoorschrift

Zie "exploded view" tekening.

(F) MAINTENANCE

Le mécanisme de cassette doit être nettoyé régulièrement et graissé à ses points cardinaux.

1. Nettoyage à l'alcool ou à l'alcool éthylique

Tête, cabestan, galet presseur, courroie, poulies.

Pour ce qui est du nettoyage de la tête, du galet presseur et du cabestan on pourra également utiliser la cassette "drop in" (SBC114–4822 389 20035).

2. Lubrification

Voir le dessin de l'éclaté mécanique.

(D) WARTUNG

Der Cassettenteil soll regelmässig gereinigt und an den wichtigsten Stellen geschmiert werden.

1. Reinigen mit Alkohol oder Spiritus

Kopf, Tonwelle, Andruckrolle, Pese, Seilrollen.

Zum Reinigen von Kopf, Andruckrolle und Tonwelle kann auch die "drop-in" Cassette (SBC114–4822 389 20035) benutzt werden.

2. Schmiervorschrift

Siehe Explosionszeichnung.

(I) MANUTENZIONE

La meccanica del registratore richiede pulizie periodiche, come pure periodiche lubrificazioni dei punti principali.

1. Pulizia con alcool o spirito

Testina, capstan, rullo pressore, cinghia, puleggie.

Per la pulizia della testina, del rullo pressore e del capstan si può usare la cassette (SBC114–4822 389 20035).

2. Istruzioni per la lubrificazione

Fare riferimento all'esploso.

(GB) ADJUSTMENT

Equipment required:

- spring scale 50–500 g	4822 395 80028
- friction test cassette	4822 395 30054
- universal test cassette SBC420	4822 397 30071
- wow & flutter meter	

Azimuth

Azimuth alignment should be carried out on a complete car radio; proceed as follows:

- connect the millivoltmeter to the loudspeaker outputs.
- insert test cassette SBC420 and play back the 10 kHz signal.
- Turn the azimuth adjust screw (M2X10) for equal and maximum output voltage reading for both the LH and RH channel.
- lockpaint the azimuth adjust screw.

CHECKS

1. Pressure roller pressure

The pressure exerted by the pressure roller on the capstan should be in the 250 - 350 g range (refer to Fig. 1).

This pressure is measured as follows:

- select Play mode.
- push the pressure roller back at the given point by means of the spring scale.
- at the point where pressure roller and capstan just disengage the spring scale should be read.

If the pressure is not correct, replace spring 67.

2. Friction clutch 62

- insert friction test cassette.
- play take-up and fast wind torque should be between 35 and 75 gcm.

If the play take-up torque deviates from the aforementioned value, friction clutch 62 should be replaced.

3. Wow & flutter/tape speed

This check is carried out on a complete car radio; proceed as follows:

- connect the wow & flutter meter to the loudspeaker output.
- insert test cassette SBC420 and play back the 3150Hz signal.
- the wow & flutter value should be <0,35%.
- tape speed should be 4,76 cm/sec (+3%, -2%); no speed adjustment facility has been provided.

In the event of an excessive wow and flutter value, the following parts should be checked as to correct functioning:

- motor
- pressure roller
- drive belt (in case of replacement, clean flywheel pulley)
- friction clutch
- flywheel

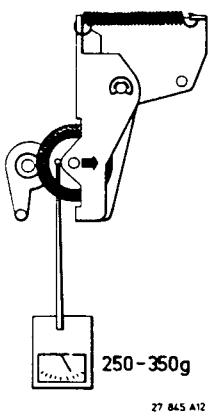


Fig. 1

(NL) INSTELLINGEN

Benodigde meetinstrumenten:

- veerdrukmeter 50–500 g	4822 395 80028
- frictie testcassette	4822 395 30054
- universele testcassette SBC420	4822 397 30071
- wow & flutter meter	

Azimuth

De azimuth instelling dient te geschieden met de autoradio kompleet en wel als volgt:
- sluit millivoltmeter aan op de luidsprekeruitgangen
- breng de testcassette SBC420 in en geef het 10 kHz signaal weer.
- stel met behulp van de azimuthschroef (M2X10) de uitgangsspanning zo in dat deze voor zowel het linker- als het rechterkanaal gelijk en maximaal is.
- lak azimuthschroef af.

CONTROLES

1. Drukrolkracht

De drukrolkracht tegen de toonas moet liggen tussen 250 en 350 gram (zie fig. 1).

Deze wordt als volgt gemeten:
- breng cassettedeck in stand weergave.
- druk de drukrol met de veerdrukmeter in het aangegeven punt terug.
- op het moment dat de drukrol los komt van de toonas moet de meteraanwijzing worden afgelezen.

Indien de drukrolkracht niet juist is moet veer 67 worden vervangen.

2. Frictie 62

- breng de frictie-testcassette in.
- de afspeel-/snelspoelfrictie moet 35–75 gcm zijn.

Indien de afspeelfrictie afwijkt van bovengenoemde waarde, dient frictiekoppeling 62 te worden vervangen.

3. Wow & flutter/bandsnelheid

De controle dient te geschieden met de autoradio compleet en wel als volgt:
- sluit wow & flutter meter aan op de luidsprekeruitgang.
- breng de testcassette SBC420 in en geef het 3150 Hz signaal weer.
- de jengelwaarde moet <0,35% zijn.
- de bandsnelheid moet zijn 4,76 cm/sec +3%, -2%, de snelheid kan niet worden ingesteld.

Bij een buitensporige jengelwaarde dienen de volgende onderdelen op hun juiste werking te worden gecontroleerd:
- motor
- drukrol
- snaar (bij vervanging de vliegwielpoelie schoonmaken)
- frictiekoppeling
- vliegwiel

(F) REGLAGES

Instruments de mesure requis:

- dynamomètre 50–500 g	4822 395 80028
- cassette d'essai de la friction	4822 395 30054
- cassette d'essai universelle SBC420	4822 397 30071
- instrument du pleurage et scintillement	

L'azimuth

Le réglage de l'azimuth doit se faire lorsque l'auto-radio est au complet; on procèdera alors comme suit:
- brancher le millivoltmètre sur les sorties de haut-parleur.
- insérer la cassette d'essai SBC420 et reproduire le signal de 10 kHz.
- à l'aide de la vis réglant l'azimuth (M2X10) régler la tension de sortie de façon qu'elle soit égale et au maximum pour le canal de gauche tout comme celui de droite.
- fixer la vis de l'azimuth à la laque.

CONTROLES

1. Force du galet presseur

La force du galet presseur contre le cabestan doit se situer entre les 250 et 350 g. (voir fig. 1).

Mesurer comme suit.:
- positionner la mécanique sur reproduction.
- retirer le galet presseur á l'aide du dynamométre sur le point indiqué.
- au moment où le galet pressuer se détache du cabestan on lira l'affichage sur l'instrument.

Si la force de pression n'est pas exacte, remplacer le ressort.

2. Friction 62

- introduire la cassette d'essai de friction.
- la friction au défilement et au bobinage rapide doit se situer entre 35 et 75 gcm.

Si la friction d'enroulement s'écarte de la valeur donnée ci-dessus, on procédera au remplacement du couple de friction 62.

3. Pleurage et scintillement/vitesse de défilement

Le contrôle doit se faire lorsque l'auto-radio est au complet, on y alors procèdera de la manière suivante:
- brancher l'instrument du pleurage sur la sortie de haut-parleur.
- introduire la cassette d'essai SBC420 et reproduire le signal de 3150 Hz.
- la valeur de pleurage doit être <0,35%.
- la vitesse de défilement doit être 4,76 sec, +3%, -2%, la vitesse n'est pas réglable.

Si le taux de pleurage s'écarte de la valeur type, il faudra vérifier le fonctionnement des composants suivants:
- moteur
- galet presseur
- courroie d'entraînement (en cas de remplacement, nettoyer le poulie du volant)
- couple de friction
- volant

(D) EINSTELLUNGEN

Benötigte Messgeräte:

- Federwaage 50–500 g	4822 395 80028
- Friktionstestcassette	4822 395 30054
- Universal-Testcassette SBC420	4822 397 30071

- Gerät zum Messen der Tonhöhenschwankungen ("wow & flutter")

Azimuth

Die Azimutheinstellung soll mit dem kompletten Autoradio stattfinden, und zwar wie folgt:
- Millivoltmeter an die Lautsprecherausgänge schalten.
- Testcassette SBC420 einlegen und das 10–kHz-Signal wiedergeben.
- Mit der Azimuth-Einstellschraube (M2X10) die Ausgangsspannung so einstellen, dass sie für sowohl den linken als auch den rechten Kanal gleich ist und den Höchstwert aufweist.
- Azimuth-Einstellschraube lacksichern.

KONTROLLEN

1. Andruckrollendruck

Der Andruckrollendruck an der Tonwelle soll zwischen 250 und 350 g liegen (siehe Bild 1).

Er wird wie folgt gemessen:
- Cassettendeck in Wiedergabestellung bringen.
- Die Andruckrolle mit der Federwaage an der gekennzeichneten Stelle zurückdrücken.
- Im Augenblick als sich die Andruckrolle von der Tonwelle löst, soll die Anzeige an der Federwaage abgelesen werden.

Falls der Andruckrollendruck nicht richtig ist, muss Feder 67 ausgewechselt werden.

2. Reibkupplung 62

- Friktionstestcassette einlegen.
- Die VL-/SVL-Friktion soll 35–75 gcm betragen.

Wenn die VL-Friktion vom vorgenannten Wert abweicht, muss Friktionskupplung 62 ausgewechselt werden.

3. Tonhöhenschwankungen/Bandgeschwindigkeit

Die Kontrolle soll mit kompletten Autoradio wie folgt vorgenommen werden.:
- Gerät zum Messen der Tonhöhenschwankungen an den Lautsprecherausgang schalten.
- Testcassette SBC420 einlegen und das 3150 Hz-Signal wiedergeben.
- Der Jaulwert soll < 0,35% sein.
- Die Bandgeschwindigkeit soll 4,76 s (+3%, -2%) sein; die Geschwindigkeit lässt sich nicht einstellen.

Bei einem übermässigen Jaulwert sollen folgende Bauteile auf ihr richtiges Funktionieren geprüft werden.:
- Motor
- Andruckrolle
- Antriebspese (beim Auswechseln die Schwungradseilrolle reinigen)
- Reibkupplung
- Schwungrad

(I) REGOLAZIONI

Strumenti richiesti:

- Dinamometro 50–500 g	4822 395 80028
- Cassetta campione per la frizione	4822 395 30054
- Cassetta campione universale SBC420	4822 397 30071

- Strumento wow e flutter

Azimuth

La regolazione dell'azimuth deve essere effettuata sul riproduttore collegato all'autoradio procedendo nel seguente modo:
- Collegare un millimetro all'uscita per altoparlante.
- Inserire una cassetta campione SBC420 e riprodurre il segnale a 10 kHz.
- Ruotare la vite per la regolazione dell'azimuth (M2X10) finché la tensione letta per entrambi i canali sia la più elevata.
- Fissare con lacca la vite di regolazione per l'azimuth.

CONTROLLI

1. Pressione del rullo preminastro

La pressione esercitata dal rullo pressore sul capstan deve essere compresa tra 250–350 gr (vedere fig. 1).

Questa pressione deve essere misurata nel seguente modo:
- Mettere l'apparecchio in Play
- Spingere il rullo pressore indietro al punto dato per mezzo del dinamometro.
- Nel punto dove il rullo pressore e il capstan sono liberi la scala del dinamometro darà una certa indicazione.

Se la pressione del rullo preminastro non è corretta sostituire la molla.

2. Forza della frizione 62

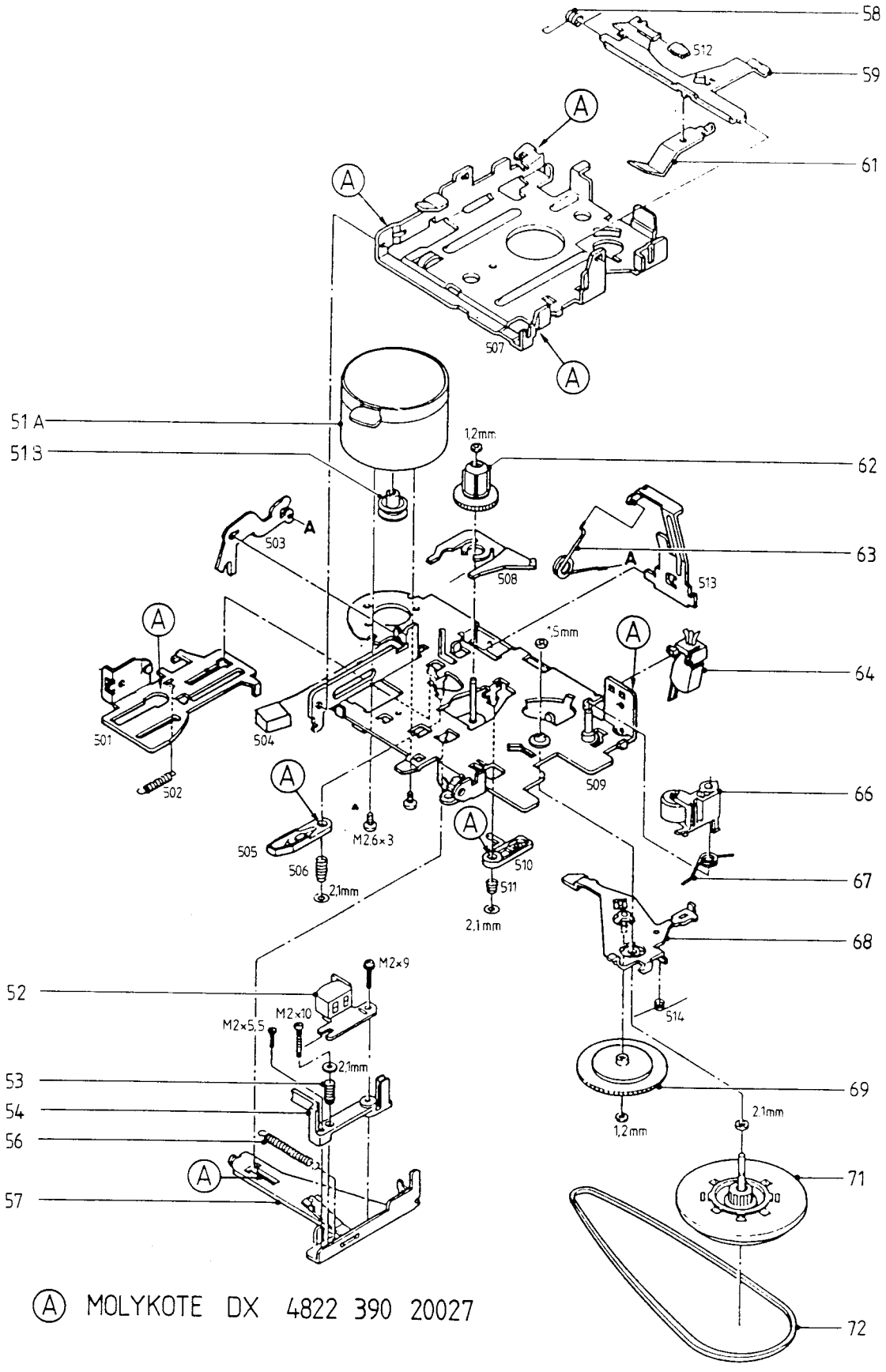
- Inserire la cassetta per il controllo della frizione.
- Riprodurre e leggere l'indicazione sul piattello di trascinamento; deve essere compresa tra 35 e 75 gcm.

Se in posizione play l'indicazione del piattello di trasciamento non è compresa nei valori sopra riportati deve essere sostituita la frizione 62.

3. Wow e flutter/velocità del nastro

Questo controllo deve essere effettuato sul riproduttore collegato all'autoradio procedendo nel seguente modo:
- Collegare un misuratore di Wow e flutter all'uscita per altoparlante.
- Inserire la cassetta campione SBC420 e riprodurre il segnale a 3150 Hz.
- Il valore di Wow e flutter deve essere < 0,35%.
- La velocità deve essere 4,76 cm/sec (+3%, -2%); non è prevista una regolazione semplice.

Nel caso ci sia un valore eccessivo di Wow e flutter, bisogna controllare le seguenti parti se funzionano in modo corretto:
- Motore
- Rullo pressore
- Cinghia di trascinamento (nel caso di sostituzione, pulire la puleggia del volano)
- Frizione
- Volano



Ⓐ MOLYKOTE DX 4822 390 20027

CAR 0002C

51	4822 361 30404	57	4822 466 82939		61	4822 492 71142	67	4822 492 42623
52	4822 249 30188	58	4822 492 33345		62	4822 466 70743	68	4822 522 10458
53	4822 492 52328	58	4822 492 33354	-234	63	4822 492 42624	69	4822 522 20452
54	4822 404 21247	59	4822 466 82941		64	4822 271 30778	71	4822 528 60396
56	4822 492 33344	59	4822 466 82943	-234	66	4822 403 20242	72	4822 358 31196

CDS-36PR

CDS-36PS

Service
Service
Service

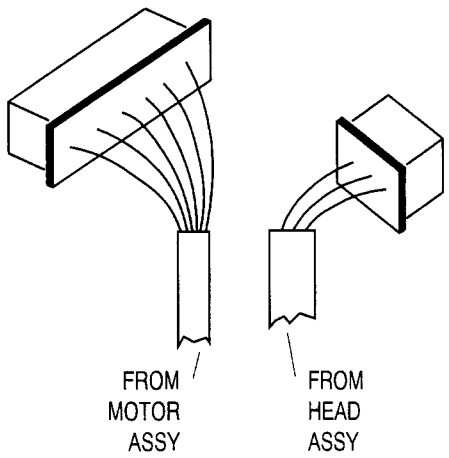
Supplement

Service Manual

12 V

For this version, please refer to the Service Manual
CDS-36MH3 4822 725 24114, with the following exceptions:

- Different interface connectors:
  Item 90 (see exploded view on next page): only for CDS-36PR
  (no service item);
  CDS-36PS has separate motor/switch and head signal connectors
  (no service items) - see figure below:



- Version CDS-36PR: bottom plate added.

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PCS 80 575

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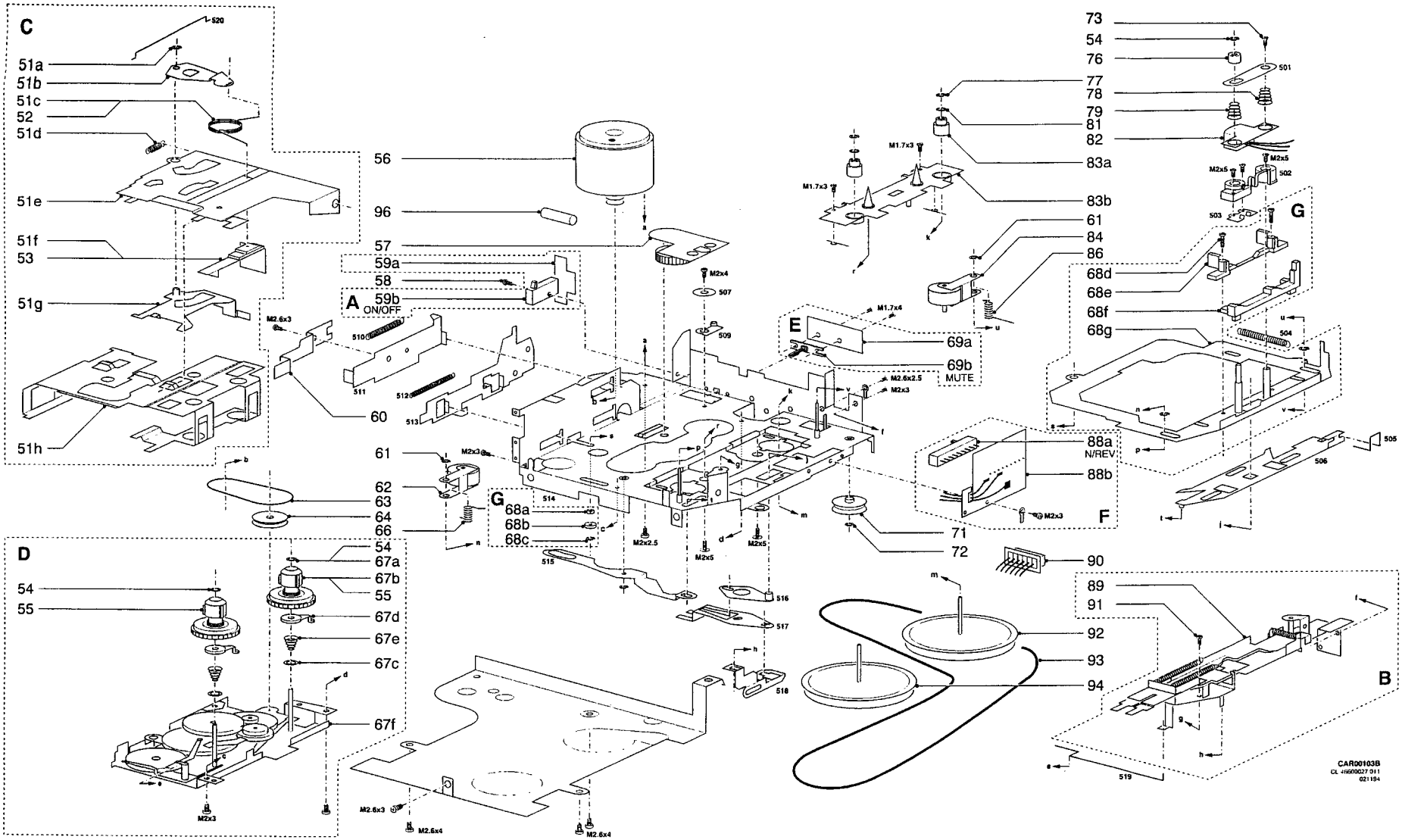
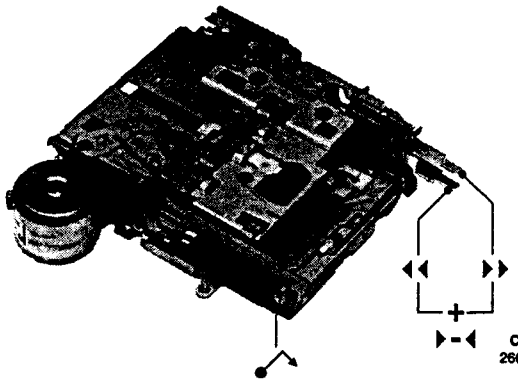


Note: ONLY those position numbers mentioned here are service spare parts.

	4822 691 10421	Deck CDS-36PS complete		59	4822 277 21603	Switch, ON/OFF	2)	73	4822 502 13969	Screw M2X4		91	4822 502 13968	Screw M2X4		G	4822 466 83156	Head plate assy	1)
	4822 701 13942	Deck CDS-36PR complete		61	4822 532 11631	Ret. ring 1.5		76	4822 532 21456	Bushing for head		92	4822 528 60422	Flywheel, NOR			4822 395 30054	811/CTM	
52	4822 492 63888	Torsion spring	1)	62	4822 528 81503	Pressure roller, REV		77	4822 530 70447	Ret. ring 1.6X3.2		93	4822 358 31181	Belt, large			4822 397 30069	SBC419	
52	4822 492 42712	Torsion spring	2)	63	4822 358 31263	Belt, small		78	4822 492 52301	Spring for head, right		94	4822 528 60423	Flywheel, REV			4822 397 30071	SBC420	
53	4822 403 53313	Cassette guide		64	4822 522 33229	Pulley gear		79	4822 492 52302	Spring for head, left		A	4822 214 52245	Switch1 pcb assy	1)		4822 389 20035	Drop in cassette	
54	4822 532 51953	Washer 1.6X0.25		66	4822 492 42599	Torsion spring, REV		81	4822 532 51955	Washer 2.1X3.5		B	4822 404 21324	Lever bracket assy	1)		1) only CDS-36PR		
55	4822 528 10903	Reel spindle assy		69B	4822 276 13519	Switch, MUTE		82	4822 249 30211	Head, playback		C	4822 256 92264	Cassette holder assy	1)		2) only CDS-36PS		
56	4822 361 30426	Motor assy		71	4822 528 81468	Pulley, for large belt	1)	84	4822 528 81504	Pressure roller, NOR		D	4822 528 10908	Reel base assy	1)				
57	4822 522 33228	Idler arm with gears		71	4822 528 81527	Idle pulley	2)	86	4822 492 42598	Torsion spring, NOR		E	4822 276 13571	Mute switch assy	1)				
58	4822 502 13967	Screw M1.7X6		72	4822 532 51952	Washer 1.2X0.25		88A	4822 277 21743	Switch, NOR/REV		F	4822 214 52246	Switch2 pcb assy	1)				

Car cassette deck CDS-36MH3

Service
Service
Service



ServiceManual

12 V

(GB) TECHNICAL DATA

Operating voltage	: 10.5-16VDC (nom. 13.2VDC)
Tape speed	: 4.76cm/sec ± 2%
Wow & flutter	: ≤ 0.35% RMS
Crosstalk suppression	: > 35dB
Fast wind time	: < 170 secs (C-60)
Number of tracks	: 2x2

(NL) TECHNISCHE GEGEVENS

Werkspanning	: 10.5-16VDC (nom. 13.2VDC)
Bandsnelheid	: 4,76cm/sec ± 2%
Wow & flutter	: ≤ 0,35% RMS
Overspraak demping	: > 35dB
Omspoeltijd	: < 170 sec (C-60)
Aantal sporen	: 2x2

(F) CARACTERISTIQUES TECHNIQUES

Tension de fonctionnement	: 10.5-16VDC (nom. 13.2VDC)
Vitesse de bande	: 4,76cm/sec ± 2%
Pleurage & scintillement	: ≤ 0,35% RMS
Assourdissement de diaphonie	: > 35dB
Temps de bobinagerapide	: < 170 sec (C-60)
Nombre de pistes	: 2x2

(D) TECHNISCHE DATEN

Betriebsspannung	: 10.5-16VDC (nom. 13.2VDC)
Bandgeschwindigkeit	: 4,76cm/s ± 2%
Gleichlaufschwankungen	: ≤ 0,35% RMS
Uebersprach-Dämpfung	: > 35dB
Umspuldauer	: < 170 s (C-60)
Spurenzahl	: 2x2

(I) DATI TECNICI

Tensione di lavoro	: 10.5-16VDC (nom. 13.2VDC)
Velocità di trascinamento	: 4,76cm/sec ± 2%
Wow & flutter	: ≤ 0,35% RMS
Assordamento della diafonia	: > 35dB
Durata di avvolgimento	: < 170 sec (C-60)
Numero di piste	: 2x2

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(GB) MAINTENANCE

The cassette mechanism requires periodic cleaning,as well as periodic lubrication of the principal points.

1. Cleaning with alcohol or spirit
- Playback head
- Capstan & pressure roller
- Belts & pulleys

To clean head, pressure roller and capstan, it is also possible to use drop-in cassette SBC114-4822 389 20035.

2. Lubrication
- See exploded view.

(NL) ONDERHOUD

Het cassette mechanisme moet periodiek schoongemaakt en op de belangrijkste punten gesmeerd worden.

1. Schoonmaken met alcohol of spiritus
- Weergeefkop
- Toonas & drukrol
- Snaren & poelies

Voor het reinigen van kop, drukrol en toonas kan ook "drop-in"-cassette SBC114-4822 389 20035 worden gebruikt.

2. Smering
- Zie exploded view.

(F) MAINTENANCE

Le mécanisme de cassette doit être nettoyé réguilièrement et graissé a ses points cardinaux.

1. Nettoyage à l'alcool ou à l'alcool éthylique
- Tête de reproduction
- Cabestan & galet-presseur
- Courroies & poulies

Pour ce qui est du nettoyage de la tête, du galet-presseur et du cabestan on pourra également utiliser la cassette "drop-in" SBC114-4822 389 20035.

2. Lubrification
- Voir vue éclatée.

(D) WARTUNG

Der Cassettenteil soll in regelmässigen Zeitabständen gereinigt und an den wichtigsten Stellen geschmiert werden.

1. Reinigen mit Alkohol oder Spiritus
- Widergabekopf
- Tonwelle & Andruckrolle
- Pesen & Seilrollen

Zum Reinigen von Kopf, Andruckrolle und Tonwelle kann auch die "drop-in"-Cassette SBC114-4822 389 20035 benutzt werden.

2. Schmierung
- Siehe Explosionsansicht.

(I) MANUTENZIONE

La meccanica del registratore richiede pulizie periodiche,
come pure periodiche lubrificazioni dei punti principali.

1. Pulizia con alcool o spirito
- Testina di riproduzione
- Capstan & rullo pressore
- Cinghie & puleggie

Per la pulizia della testina, del rullo pressore e del capstan si può usare la cassetta "drop-in" SBC114-4822 389 20035.

2. Lubrificazione
- Vedere esploso.

(GB) ADJUSTMENTS AND CHECKS

Equipment required:
- Universal test cassette SBC419 4822 397 30069
- Universal test cassette SBC420 4822 397 30071
- Friction test cassette 811/CTM 4822 395 30054
- Spring scale 50-500g 4822 395 80028
- Wow & flutter meter
- AC millivoltmeters

1. Azimuth (Fig. 1)
Azimuth alignment should be carried out on a complete car radio; proceed as follows:
- Connect the millivoltmeters to the loudspeaker outputs.
- Insert test cassette SBC419 (or SBC420), select NOR (normal play) and play the 10kHz signal.
- Adjust Azimuth screw "A" for equal and maximum output voltage reading for both RH and LH channel.
- Switch to REV (reverse play) and play the 10kHz signal.
- Repeat the adjustment with screw "B"

2. Friction clutch 55
- Insert friction test cassette 811/CTM (NOR and REV).
- Play take-up torque should be 35 - 75g/cm.
- Fast wind torque should be 40 - 150g/cm.
- If the torque is not correct, replace clutch 55.

3. Wow & flutter/tape speed (Fig. 1)
This check is carried out on an complete car radio; proceed as follows:
- Connect the wow & flutter meter to the LS outputs
- Insert test cassette SBC419 (or SBC420) and play the 3150Hz signal
- The wow & flutter value should be 0.35%
- Tape speed should be 4.76cm/sec. 2%
- The tape speed can be adjusted with screw "C"

In case of an excessive wow & flutter value, check following parts for correct functioning:
- motor 56
- pressuer rollers 62, 84
- belts 63, 93
- friction clutches 55
- flywheels 92, 94
- pulley 71

(NL) INSTELLINGEN EN CONTROLES

Benodigde meetinstrumenten:
- Universele testcassette SBC419 4822 397 30069
- Universele testcassette SBC420 4822 397 30071
- Frictie testcassette 811/CTM 4822 395 30054
- Veerdrukmeter 50-500g 4822 395 80028
- Wow & flutter meter
- AC millivoltmeters

1. Azimuth (fig. 1)
De Azimuth instelling dient te geschieden bij de komplete autoradio en wel als volgt:
- Sluit de millivoltmeters aan op de LS-uitgangen.
- Breng testcassette SBC419 (of SBC420) in, kies NOR (normaal afspelen) en geef het 10kHz-signaal weer.
- Stel met schroef "A" de uitgangsspanning zo in, dat deze voor zowel linker- als rechterkanaal gelijk en maximaal is.
- Schakel over naar REV (omgekeerd afspelen) en geef het 10kHz-signaal weer.
- Herhaal de instelling met schroef "B".

2. Frictie 55
- Breng testcassette 811/CTM in (NOR en REV).
- De afspeelfrictie moet 35 - 75g/cm zijn.
- De snelspoelfrictie moet 40 - 150g/cm zijn.
- Indien de waarde niet juist is moet frictie 55 worden vervangen.

3. Wow & flutter/bandsnelheid (fig. 1)
Kontrole moet worden gedaan bij een komplete auto-radio en wel als volgt:
- Sluit wow & flutter meter aan op de LS-uitgangen.
- Breng testcassette SBC419 (of SBC420) in en geef het 3150Hz-signaal weer.
- De jengel moet 0,35% zijn.
- De bandsnelheid moet 4,76cm/sec 2% zijn.
- De snelheid is instelbaar met schroef "C".

Bij een buitensporige waarde moeten de volgende onderdelen op hun juiste werking worden gekontroleerd:
- Motor 56
- Drukrollen 62, 84
- Snaren 63, 93
- Fricties 55
- Vliegwielen 92, 94
- Poelie 71

(F) REGLAGES ET CONTROLES

Instruments requis
- Cassette d'essai universelle SBC419 4822 397 30069
- Cassette d'essai universelle SBC420 4822 397 30071
- Cassette d'essai de friction 811/CTM 4822 395 30054
- Dynamomètre 50-500g 4822 395 80028
- Instrument du pleurage & scintillement
- Millivoltmètre en alternatif

1. L'azimuth (fig. 1)
Le réglage de l'azimuth devra être effectué lorsque l'auto-radio est au complet; procéder comme suit:
- Brancher les millivoltmètres sur les sorties h-p.
- Insérer la cassette d'essai SBC419 (ou SBC420), sélectionner NOR (défilement normal) et reproduire le signal de 10kHz.
- Régler la tension de sortie à l'aide de la vis "A" de façon qu'elle soit égale et au max. pour le canal de gauche tout comme celui de droite.
- Sélectionner REV (défilement inversé) et reproduire le signal de 10kHz.
- Répéter le réglage à l'aide de la vis "B".

2. Friction 55
- Introduire la cassette d'essai 811/CTM (NOR et REV).
- La friction de défilement doit être 35 - 75g/cm.
- La friction au bobinage rapide doit être 40 - 150g/cm.
- Si la valeur est inexacte, remplacer la friction 55.

3. Pleurage et scintillement/vitesse de bande (fig. 1)
Le contrôle devra être effectué lorsque l'auto-radio est au complet; proceder comme suit:
- Brancher l'instrument du pleurage sur les sorties h-p.
- Introduire la cassette d'essai SBC419 (ou SBC420) et reproduire le signal de 3150Hz.
- La valeur de pleurage doit être 0,35%.
- La vitesse de bande doit être 4,76cm/sec 2%.
- La vitesse est réglable avec vis "C".

Si le taux de pleurage est dépassé, il faut vérifier le fonctionnement des composants suivants:
- moteur 56
- galets presseur 62, 84
- courroies 63, 93
- couple de friction 55
- volants 92, 94
- poulie 71

(D) EINSTELLUNGEN UND KONTROLLEN

Benötigte Messgeräte:

- Universal-Testcassette SBC419	4822 397 30069
- Universal-Testcassette SBC420	4822 397 30071
- Friktionstestcassette 811/CTM	4822 395 30054
- Federwaage 50-500p	4822 395 80028

- Gleichlaufanalysator
- Wechselspannungs-Millivoltmeter

1. Azimuth (Bild 1)
Die Azimutheinstellung soll mit dem kompletten Autoradio stattfinden und zwar wie folgt:
- Millivoltmeter an die Lautsprecherausgänge schalten.
- Testcassette SBC419 (oder SBC420) einlegen, NOR (normal spielen) wählen und das 10kHz-Signal wiedergeben.
- Mit Schraube "A" die Ausgangsspannung so einstellen, dass sie für sowohl den linken als auch den rechten Kanal gleich ist und den Höchstwert aufweist.
- Auf REV (umgekehrt spielen) schalten und das 10kHz-Signal wiedergeben.
- Die Einstellung mit Schraube "B" wiederholen.

2. Reibkupplung 55
- Friktionscassette 811/CTM einlegen (NOR und REV).
- Die VL-Friktion soll 35 - 75p/cm sein.
- Die SVL-Friktion soll 40 - 150p/cm sein.
- Falls der Wert nicht richtig ist, muss Friktion 55 ersetzt werden.

3. Gleichlaufschwankungen/Bandgeschwindigkeit (Bild 1)
Die Kontrolle soll mit dem kompletten Autoradio wie folgt vorgenommen werden:
- Gleichlaufanalysator an die LS-Ausgänge schalten.
- Testcassette SBC419 (oder SBC420) einlegen und das 3150Hz-Signal wiedergeben.
- Der Jaulwert soll 0,35% sein.
- Die Bandgeschwindigkeit soll 4,76cm/s 2% sein.
- Die Geschwindigkeit ist einstellbar mit Schraube "C".

Bei einem übermässigen Jaulwert folgende Teile auf ihr richtiges Funktionieren kontrollieren:
- Motor 56
- Andruckrollen 62, 84
- Pesen 63, 93
- Friktion 55
- Schwungräder 92, 94
- Seilrad 71

(I) REGOLAZIONI E CONTROLLI

Strumenti richiesti:

- Cassetta test universale SBC419	4822 397 30069
- Cassetta test universale SBC420	4822 397 30071
- Cassetta test per la frizione 811/CTM	4822 395 30054
- Dinamometro 50-500gr	4822 395 80028

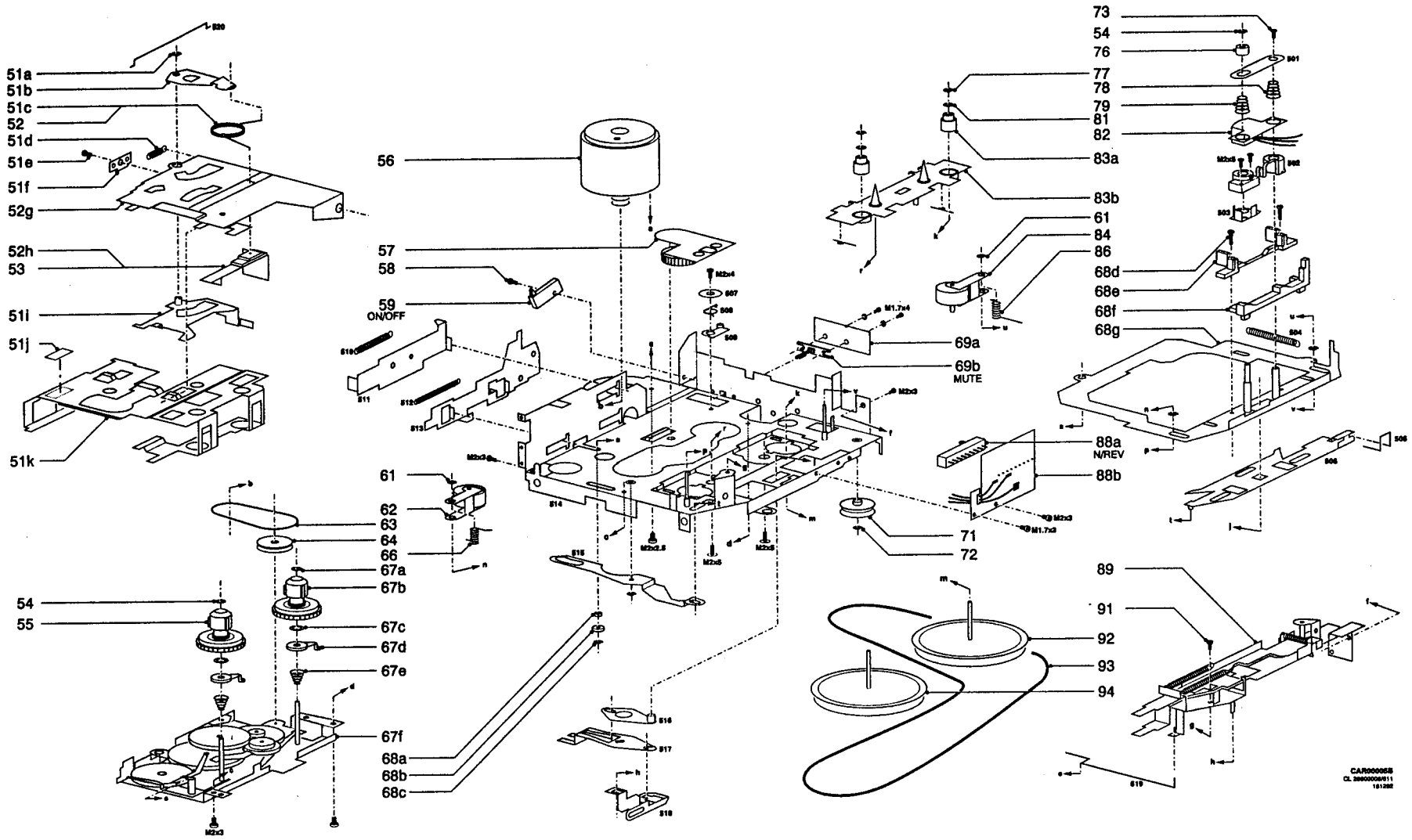
- Strumento wow & flutter
- Millivoltmetro AC

1. Azimuth (fig. 1)
La regolazione dell'azimuth deve essere eseguito quando l'autoradio è completa e ciò nel seguento modo:
- Collegare un mV-metro all'uscita per altoparlante.
- Inserire cassetta test SBC419 (o SBC420), selezionate NOR ("normal play") e riprodurre il segnale a 10kHz.
- Ruotare la vite "A" finchè la tensione letta per entrambi i canali sia la più elevata.
- Selezionate REV ("reverse play") e riprodurre il segnale a 10kHz.
- Selezionare la funzione Reverse e ripetere la taratura dell'azimuth utilizzando la vite "B".

2. Forza della frizione 55
- Inserire la cassetta 811/CTM (NOR e REV).
- La forza in Play deve essere 35 - 75gr/cm, in avvolgimento veloce 40 - 150gr/cm ra 40 - 150gr/cm.
- Se la forza non è corretta sostituire la frizione 55.

3. Wow e flutter/velocità del nastro (fig. 1)
Questo controllo deve essere eseguito quando l'autoradio è completa e ciò in maniera seguente:
- Collegare il misatore di Wow e flutter all'uscita per altoparlante.
- Inserire la cassetta test SBC419 (o SBC420) e riprodurre il segnale a 3150Hz.
- Il valore di Wow e flutter deve essere 0,35%.
- La velocità deve essere 4,76cm/sec 2%.
- La velocità può essere regolato con la vita "C".

Nel caso ci sia un valore eccessivo di Wow e flutter, bisogna controllare le seguenti parti se funzionano in modo corretto:
- Motore 56
- Rullo pressore 62, 84
- Cinghia di trascinamento 63, 93
- Frizione 55
- Volano 92, 94
- Puleggia 71



51	4822 256 91894	Cassette holder (compl.)	62	4822 528 81469	Pressure roller, REV	76	4822 532 21456	Bushing for head	89	4822 404 21254	Lever unit, FW/FRW
52	4822 492 42601	Torsion spring	63	4822 358 31182	Belt, small	77	4822 530 70447	Ret. ring 1.6x3.2	91	4822 502 13968	Screw M2x4
53	4822 403 53313	Cassette guide	64	4822 522 33229	Pulley gear	78	4822 492 52301	Spring for head, R	92	4822 528 60395	Flywheel, NOR
54	4822 532 51953	Washer 1.6x0.25	66	4822 492 42599	Torsion spring, REV	79	4822 492 52302	Spring for head, L	93	4822 358 31181	Belt, large
55	4822 528 10845	Carrier (compl.)	67	4822 528 10862	Gear unit	81	4822 532 51955	Washer 2.1x3.5	94	4822 528 60406	Flywheel, REV
56	4822 361 30393	Motor								4822 701 12727	Deck complete CDS-36MH3
57	4822 522 33228	Idler arm (compl.)	68	4822 459 80764	Head support	82	4822 249 30183	Playback head			
58	4822 502 13967	Screw M1.7x6	69	4822 278 90722	Mute switch (with pcb)	83	4822 466 82998	Bearing plate			
59	4822 277 21603	On/off switch	71	4822 528 81468	Pulley	84	4822 528 81471	Pressure roller, NOR			
61	4822 532 11631	Ret. ring 1.5	72	4822 532 51952	Washer 1.2x0.25	86	4822 492 42598	Torsion spring, NOR			
			73	4822 502 13969	Screw fix head R, M2x4	88	4822 277 21655	NOR/REV switch (with pcb)			

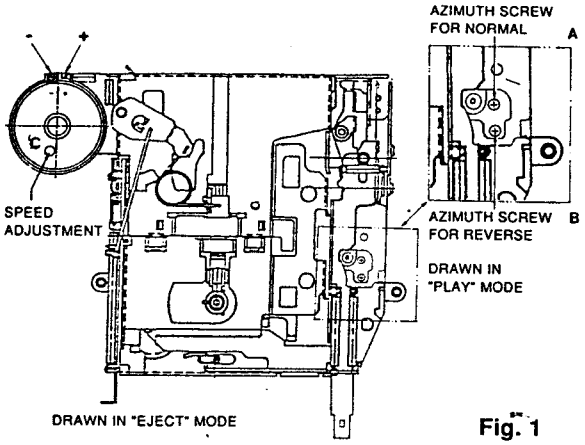


Fig. 1

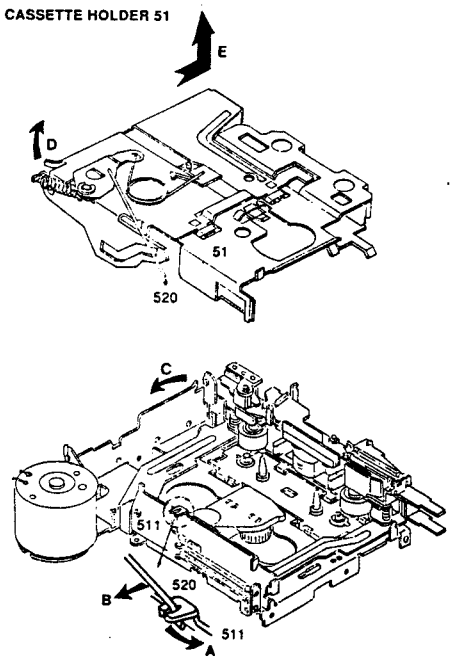


Fig. 2

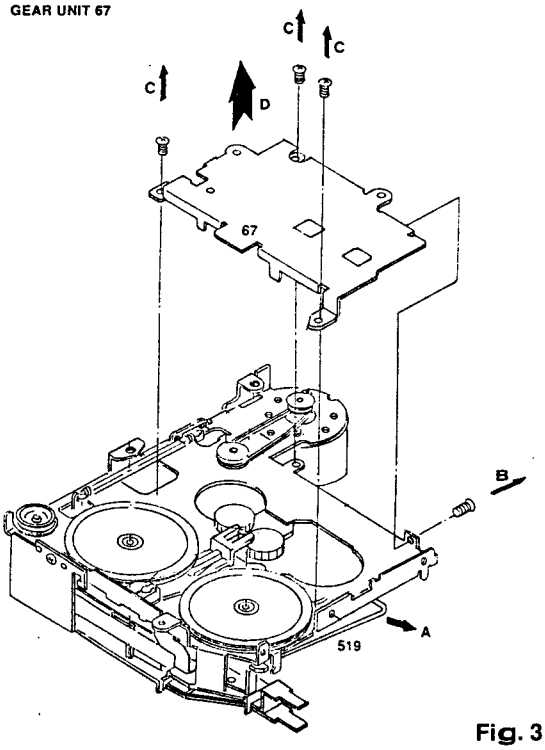


Fig. 3

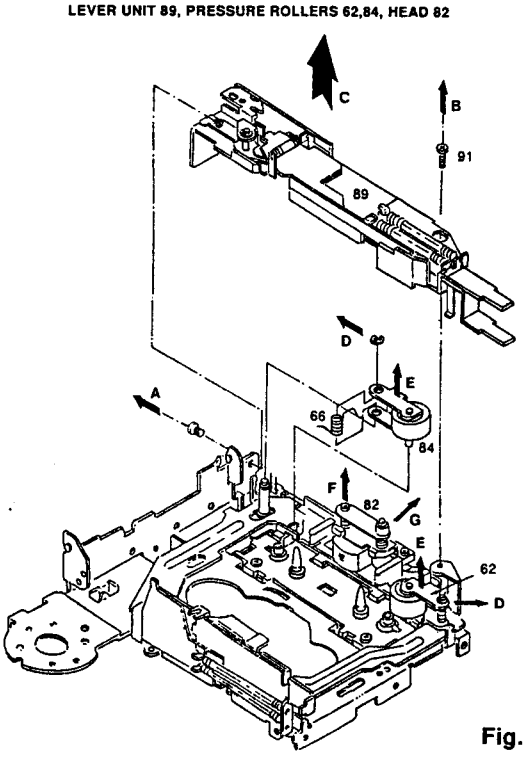


Fig. 4

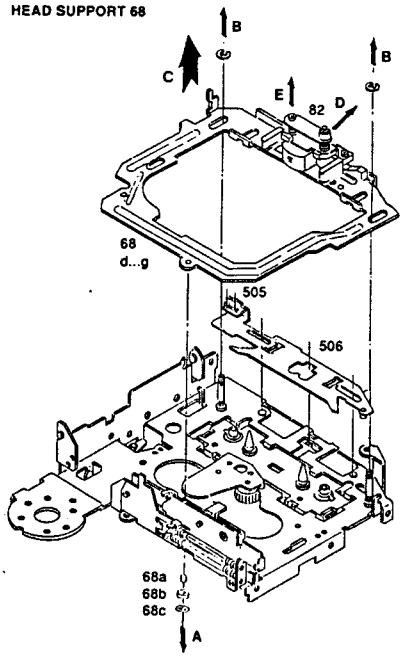


Fig . 5